[redacted]

Western Regional Planning Panel

Re: Panel Reference Number 2016WES006 – Dubbo – PP 2016_Dubbo_005_00 – Daisy Hill

We do not support the proposal.
We wish to raise a number of serious concerns.

- This proposal is against Dubbo City Council intention for residential housing to spread west of Macquarie Street and Macquarie River rather than east. The area on either side of Eulomogo Road is zoned as rural.
- The current traffic on Eulomogo Road entering Peachville Road and the Mitchell Highway will more than double. Currently these two intersections are dangerous. They do not have any feeding in lanes. Traffic is going both ways between Wellington and Dubbo during peak hours and other times at 110km per hour and it is difficult to enter the highway. Traffic currently builds up about 4 cars and across the railway crossing. With a doubling of traffic with the Daisy Hill proposal, the turn into Peachville Road will also be affected.
- There is no curbing and guttering or decent drainage of water along Eulomogo Road. Run off from so much extra hard surface could be a serious problem for traffic and people safety. The whole of Eulomogo Road will need to be upgraded.
- The current water supply to Firgrove is at its limit. No more houses can be accommodated by the current water pressure. In summer or fire time, this could prove disastrous. Currently at peak usage, there are houses without water. It will be essential for both Firgrove and Daisy Hill to have increased water pressure.
- The houses in this area are serviced by an NBN tower. It is already inadequate for the number of houses and to double the houses will mean that it will not be efficient or effective.
- The road entering at the top of the hill on Eulomogo Road is currently a dangerous intersection. Further traffic will exacerbate this.
- Sewerage will be via individual block septic tanks. This will increase the salinity, which is already high, in the soil and hence the Macquarie River catchment.
- There is currently a down turn in housing and larger house blocks are harder to sell. The increase in the number of house blocks is not appropriate for the development of Dubbo.
- It would spoil the rural existence of Firgrove that currently exists.
- The doubling of houses was to by-pass Council authorities. This may well be hiding other major issues.

Yours sincerely,

[redacted]

The Western Regional Planning Panel

GPO Box 39

Sydney NSW 2001

10/08/2019

Panel Reference Number: 2016WES006 – Dubbo – PP_2016_DUBBO_005_00 – Daisy Hill, Dubbo

Dear panel members,

I am writing to **object to the proposal** of the creation of the Daisy Hill estate, creating 222 new lots of land. The reason for my objection is that I believe the amount of traffic this development would require would be unsafe in this area, especially at the highway intersection where accidents and near-misses happen regularly.

I live in the neighbouring estate of Firgrove. The majority of the people who chose to live out of town in this area are families, generally with multiple children, many of whom are of driving age. For example, in my family alone (married couple + 3 children) there are 5 drivers plus 3 partners of our children, meaning that our house alone puts 8 cars on the road almost every day, not including any visitors. This is not unique to us – most of our friends and neighbours in Firgrove are in similar situations.

The proposed 222 houses would generate a huge amount of traffic. If each house only contained a couple, this would be an additional 400+ cars on the roads, however the demographic of this area means it is more likely that each house would have 4-6 cars coming and going, bringing up to 1,332 new vehicles, plus of course visitors.

Not only would our few roads struggle to handle this volume of traffic at peak hours, but the likelihood of a fatal accident at the already dangerous junction to the Mitchell Highway would increase dramatically. I have been first on the scene of 2 accidents at this junction and only this week saw another terrifying near-miss where, due to the already large volume of traffic entering the highway, people are pulling out in front of speeding vehicles and not leaving enough margin, therefore risking their lives and the lives of others.

To introduce such a huge amount of additional vehicles to this already dangerous highway junction would, in my opinion, be negligent. I am not opposed to subdivision in the area if it introduced an extra 10-20 blocks, but the 222 suggested is a dangerous proposal.

Yours sincerely,

[redacted]

I would like to remain anonymous and therefore request that my name and address be withheld.

Our ref: DOC19/652148
Senders ref: 2016WES006 – Dubbo – PP_2016_DUBBO_005_00

Ms Mellissa Felipe
Project Officer
Planning Panels Secretariat
PlanComment@planningpanels.nsw.gov.au

Dear Ms Felipe

Subject: Daisy Hill, Dubbo (2016WES006 – Dubbo – PP_2016_DUBBO_005_00)

Thank you for your letter of 8 July 2019 seeking advice from the Biodiversity and Conservation Division (BCD) (formally the Office of Environment and Heritage) of the Department of Planning, Industry and Environment regarding the Daisy Hill planning proposal.

BCD has reviewed the following documents:

- Salinity Management Strategy Daisy Hill Residential Estate (1 November 2018)
- Vegetation Management Plan (VMP) for the Daisy Hill Subdivision (1 April 2019)
- Draft Daisy Hill Development Control Plan 2019 (1 April 2019).

Salinity

BCD supports the broad salinity mitigation approach presented in the Salinity Management Strategy (SMS) and draft Development Control Plan. However, we consider that an adaptive management approach is required. As such, BCD recommend that the SMS also include a clear ongoing salinity and groundwater monitoring program focussing on recharge and discharge sites, and a trigger – action – response plan (TARP).

The monitoring program and TARP need to be designed to identify salinity problems early to enable management action to mitigate impacts. Accountability also needs to be identified in the SMS. The SMS should therefore include (but not be limited to) identification of:

- Who is responsible for monitoring
- The type of monitoring required
- Reporting periods
- Thresholds / triggers
- Action to be taken should thresholds / triggers be reached or exceeded
- Who is responsible for actions and mitigation if these are required

Biodiversity

We understand that a development application for planning approval has not been made. The proposal is therefore not a pending or interim planning application under *Biodiversity Conservation (Savings and Transitional) Regulation 2017*. The *Biodiversity Conservation Act 2016* and *Biodiversity Conservation Regulation 2017* (section 7.1) will apply to the subdivision development application.

When assessing subdivisions, the consent authority must consider the clearing of native vegetation required, or likely to be required, for the purpose for which the land is to be subdivided.

If the subdivision will impact native vegetation and exceeds the biodiversity offsets scheme threshold, a biodiversity development assessment report will be required to assess and calculate the biodiversity offset credit requirement.

Biodiversity offsets are calculated and secured in accordance with the *Biodiversity Conservation Act 2016* for the subdivision. Once this is done, no further offsets are required for subsequent development of the land that is within the approved subdivision.

If you have any questions about this advice, please do not hesitate to contact Liz Mazzer, Conservation Planning Officer, via liz.mazzer@environment.nsw.gov.au or 02 6883 5325.

Yours sincerely

Samantha Wynn
Senior Team Leader - Planning
North West, Biodiversity and Conservation

13 August 2019

The Western Regional Planning Panel

GPO Box 39

Sydney NSW 2001

10/08/2019

Panel Reference Number: 2016WES006 – Dubbo – PP_2016_DUBBO_005_00 – Daisy Hill, Dubbo

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Yours sincerely,

[redacted]

[redacted]

I would like to remain anonymous and therefore request that my name and address be withheld.

[redacted]

[redacted]

[redacted]

12 August 2019

Planning Panels Secretariat

GPO Box 39

SYDNEY NSW 2001

Please find following a submission regarding the planning proposal currently on exhibition for public comment **Panel Reference Number 2016WES006 – Dubbo – PP _2016_DUBBO_005_00_Daisy Hill, Dubbo.**

Please be advised that I do not consent to my name and address being made public.

Yours faithfully

[redacted]

Panel Reference Number 2016WES006 – Dubbo – PP_2016_DUBBO_005_00 – Daisy Hill, Dubbo

I wish to make a submission regarding the above-mentioned planning proposal. I do not consent to my name and address, or any other personal information being provided to the planning applicant, being published, or being made public in any format.

I wish to formally lodge an objection to the Daisy Hill planning proposal. The objection to the planning proposal is based on the following concerns:

Minimum Lot Size

My wife and I made a decision to purchase our property on Pinedale Road Dubbo approximately six years ago based on the adopted LEP. Our understanding was that the parcel of land opposite our property that fronts Pinedale Road, Torwood Road and Eulomogo Road might be subdivided at some point in the future. However, we based our decision to purchase a neighbouring property on the understanding that the lots within the subdivision would be a minimum lot size of 8 hectares.

We have no objection to the subdivision to the property into parcels that are 8 hectares in size as per the minimum lot size of the Dubbo Regional Council LEP for zone R5 – Large Lot Residential. We object to the proposal to reduce the minimum lot size below 8ha to allow the subdivision to create 222 lots of land with a range in lot sizes from 6000m2, 1.5ha and 3ha.

Firgrove Estate and Richmond Estate are already located to the east of Dubbo and are within close proximity to the proposed Daisy Hill proposal. The existing R5 Large Lot Residential zoning provides for small hobby farming operations and lifestyle properties. The current LEP breaks up the existing Firgrove and Richmond Estates with larger parcels that are a minimum of 8ha in size. Should the proposal to reduce the lot size being approved, there would be three large housing estates, all with small lot sizes within close proximity.

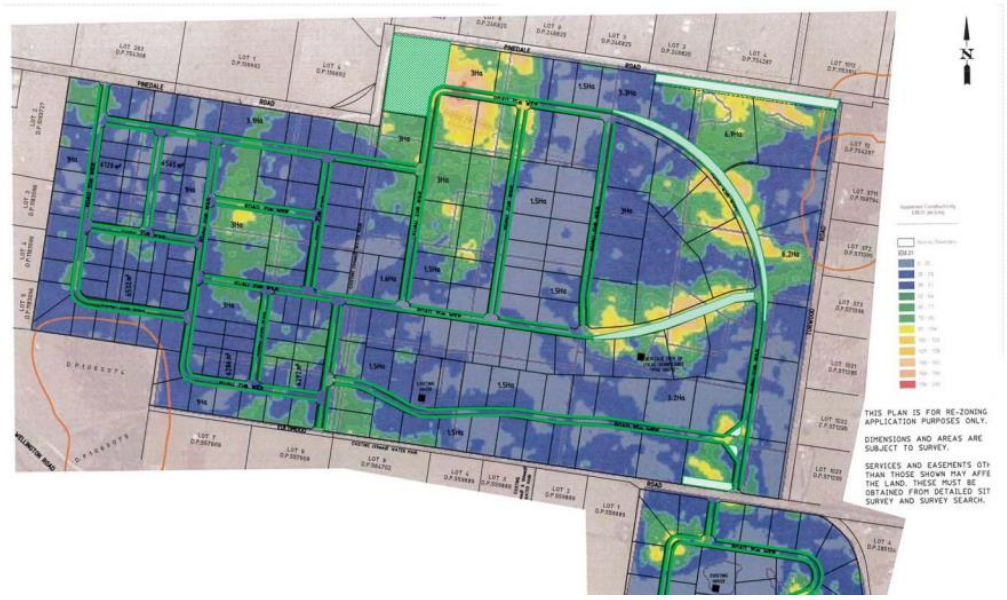
Firgrove and Richmond have a minimum lot size 1.5ha as per the R2 zoning in the LEP, however the Daisy Hill proposal includes proposed lots as small as 6000m2. This would see the creation of lots more suited to those housing estates on the edge of Dubbo such as Sheraton Meadows and Kintyre Estate rather than in a rural area. The existing LEP and minimum lot size for Large Lot Residential should be maintained and not amended to allow lots below the existing lot size of 8ha to be created in rural areas. Land owners of parcels of land in the existing Large Lot Residential zones have chosen to purchase parcels of land in rural areas amongst other large lots of 8ha and above and should be able to rely on the adopted LEP to control developments within the existing planning zone. We chose to purchase land out of town to be further away from such small parcels of land.

The planning proposal should not be allowed. Neighbouring properties that are zoned R5 would not have the ability to subdivide their parcels of land into 6000m2 lots for financial gain and the approval of this planning proposal would create a precedence for the future subdivision of all parcels in the existing R5 Large Lot zones within Dubbo Regional Council.

Salinity

The Daisy Hill proposal is a large parcel of land situated to the east of Dubbo and is part of Troy Gully catchment area. Dry land salinity is a known problem in this area. We object to the creation of 222 lots on the basis that the creation of 222 individual parcels of land and the erection of 222 dwellings and associated sheds, will further compound known salinity problems in the area. The Daisy Hill property is currently (and has been for several years) used for grazing livestock and has been

responsibly managed by the owner with low stock numbers and good vegetation. Despite this, there already appears to be a very large salinity scald, where no vegetation is growing, already clearly visible from Pinedale Road (approx. 2.2 km on right hand side).



Upon reviewing the planning proposal and the Vegetation Management Plan provided with the planning proposal, Figure 2.3 Location of Vegetation Management Plan already has this area highlighted as the "brown section" near the second right hand bend on Pinedale Road.

Figure 4.1 of the Vegetation Management Plan shows the location of larger 3ha lots. The planning proposal states the larger lots have been located due to "potential elevated salinity" in the areas. Surely if the proposal recognises the importance of having larger lots to reduce the impact on salinity 8ha lots would be the best proposal. The planning proposal states the subdivision will be undertaken with minimal disruption to soil. Despite this, a proposed road goes straight through the areas will the highest elevated salinity levels in the whole planning proposal. Despite the proposal having larger 3ha lots in "potential elevated salinity" areas, the new property owners will be disrupting the soil to erect dwellings and sheds on their newly acquired parcels of land. The impact to salinity problems in the subdivision, on adjoining parcels of land and downstream in the Troy Gully catchment area would be minimised if the current 8ha minimum lot size is upheld.

Impact on use of adjoining parcels of land and land within proposed subdivision for primary production.

The current R5 zone promotes the use of land for primary production by small hobby farmers. The minimum lot size of 8ha would ensure any new lots created from subdivision would continue the use of parcels for keeping livestock and horses. The creation of a subdivision with 222 lots, with minimum lots sizes of 1.5ha and 6000m2 will see land use changed and potential for a large increase in domestic dogs within the area. This will present a problem for existing properties that currently have cattle and horses.

Firgrove Estate and Richmond Estate are already located to the east of Dubbo and are within close proximity to the proposed Daisy Hill planning proposal. The existing R5 Large Lot Residential zoning provides for small hobby farming operations and lifestyle properties. The current LEP breaks up the

existing Firgrove and Richmond Estates with larger parcels that are a minimum of 8ha in size. Should the proposal to reduce the lot size being approved, there would be three large housing estates all within close proximity, and all to the east of Dubbo.

Increased Traffic

The proposed subdivision bounded by Pinedale Road, Torwood Road and Eulomogo Road has three proposed exits, two being onto Eulomogo Road and one onto Pinedale Road. The addition of 222 dwellings will see a significant increase in traffic on both Eulomogo Road and Pinedale Road. Both roads have a speed limit of 100km an hour. It is noted that one of the proposed exits onto Eulomogo Road, as well as the exit from the parcels of land on the southern side of Eulomogo Road are located close to the top of the crest of the hill on Eulomogo Road. These exits are located close to the existing T intersection of Torwood Road. This intersection is already dangerous with it being dangerous to turn right from Torwood Road onto Eulomogo Road or to turn right onto right into Torwood Road from Eulomogo Road due to the crest of the hill making it impossible to see traffic on Eulomogo Road, travelling at 100km an hour until the last second.

Water pressure

Lots within the existing Firgrove Subdivision, Richmond Estate subdivision and all other rural parcels of land to the east of Dubbo which are serviced by Council's water mains are serviced by a reservoir tank located to the east of Dubbo on top of hill near the Mitchell Highway. Properties along Pinedale Road already experience very low water pressure. Does Council's existing water reservoir have the capacity to supply water to an additional 222 properties without further impacting the existing low water pressure problems experienced by property owners?

Planning Panels Secretariat

GPO Box 39

Sydney NSW 2001

PLANNING PROPOSAL SUBMISSION

Planning Proposal Title:

- **Panel Reference Number 2016WES006-Dubbo-PP_2016_DUBBO_005_00**-Daisy Hill, Dubbo – to reduce the minimum lot size of Zone R5 – Large Lot Residential land to create 222 lots at land known as Daisy Hill, Dubbo.
- **This submission objects to the proposal as submitted.**
- Objections to the proposal.

The following objections were made by residents living in the Firgrove subdivision immediately adjoining or adjacent to or nearby to the planning proposal. The Firgrove subdivision was approved by the then Dubbo Council in 1993. It is Neighbourhood Strata title, and has 193 rural residential lots with a large area of community (NOT PUBLIC) land. It is of similar area and lot size to the proposed Daisy Hill subdivision. After nearly 20 years of near full lot occupancy of residences, the rural lifestyle and isolation of the Firgrove community will be severely compromised, particularly with land values if an adjoining area of similar size is allowed to proceed under the current proposal. The Firgrove plan had no provision or mention for stabilising severe salinity and soil erosion, or for improving the aesthetic and natural resource value of the community land. The Firgrove community has gradually improved the future asset value of the estate, and the following concerns and those received by email demonstrate the concern the proposed development will have on Firgrove.

The planning proposal letter headed **NOTICE OF EXHIBITION** – WESTERN REGIONAL PLANNING PANEL sent to many adjoining residents dated 8th July 2019, was subsequently distributed by social media to a further unknown number of nearby residents.

In order to assist Firgrove residents with information regarding the Daisy Hill Planning proposal, a member of the Firgrove Executive Committee (Firgrove is a Neighbourhood Strata Scheme) undertook to inform and collate Firgrove residents concerns or support regarding the proposal.

This submission is a collation of those objections sent to a collating email address and attached as "Attachment 1", as well as the points listed below and supported by the names, addresses and signatures of other residents. Some email submissions were signed.

Each signature is considered a separate submission (as advised could be done by staff at the Planning office Dubbo).

NOTE that submissions of support were clearly asked for as well as objections. **NO SUPPORTING SUBMISSIONS WERE RECEIVED** by the collating person.

OBJECTIONS TO THE DAISY HILL PLANNING PROPOSAL

NOTE: These are in addition to or expanding the submissions received by email as attached.

1. A massive increase in the number of people living within the proposed subdivision and local area will have varied impacts on existing residential areas adjoining. There is little or no reference to the specific likelihood of associated social, crime, asset protection (fire), traffic, environment protection, public space provision, utility provision, impact on agricultural land, significant increased water and septic outflow impacts on the local hydrology particularly subsoil, and severe surface water flooding impacts on houses, sheds, streets, and erosion prone land during high rainfall events on adjoining land (already happening to Firgrove residents adjoining the Firgrove Homestead section).
2. The issue of most concern will be the increase in traffic volume on the Eulomogo Road. If all proposed lots are occupied the increase in traffic will conservatively double. The infrastructure of the existing road, railway crossing and intersection with the Mitchell Highway is currently extremely dangerous (if in doubt do a survey of current road users and get a report from NSW Roads and Maritime or go for a drive during peak use time). This applies to both exit points of the Eulomogo Road (it's a loop road) to the Highway but particularly so at the western exit closer to Dubbo that the majority of Daisy Hill residents would be using.
3. The proposal will have town water connected to each of the proposed 220 lots. If this supply has <u>any</u> connectivity to the Firgrove/Wongarbon supply at all, the water pressure at Firgrove will be impacted on and will need major council upgrades to ensure supply (no doubt at ratepayers cost). The scale of this proposed subdivision MUST have an impact on Dubbo's future ability to provide water given the current water restrictions that are likely to get worse. Local knowledge indicates that private bores in this area (as at Firgrove) will only supply garden water at best, and add to existing salinity issues.
4. The proposal has NO PUBLIC SPACE PROVISION. Is there not a requirement for a subdivision so large and so far out of town to have public space for recreation and /or for community initiatives? The lack of public areas will increase social issues, particularly if there are no land title requirements relating to housing size and lot use.
5. This <u>current land use</u> of this area consists of grazing, a few residences, an area only used by wildlife and feral animals, and an actively used quarry. The Land Capability Classification for about 90% of the proposed area as used by most NSW government departments would be Class 3, verging into Class 4 on steeper hill areas. This indicates the majority of the land has ongoing sustainable agricultural capability. Surely the availability of this land cannot be sacrificed for urban residential use?
6. There are no areas set aside for enhancement and asset protection of the natural environment. The natural environment of this area pre white settlement was likely a combination (depending on relief) of white box, western grey box, fuzzy box, yellow box, with a large mix of native shrubs and grassland. The loss of such vegetation communities through clearing has resulted in any remnant woodland with these tree species now listed as being part of **Endangered Ecological Communities (EEC). THE PROPOSED AREA HAS TWO**

REMNANT CLUMPS OF EUCALYPTS THAT ARE HIGHLY LIKELY TO FALL INTO THIS EEC .

to improve/enhance/avoid/mimimise actions relating to any EEEC areas should be a priority. Any such referral must also consider the high quality EEC remnants along the Eulomogo Road and how better planning might enhance connectivity between the road and paddock areas of trees. The area of native vegetation (including EEC) around the Firgrove homestead and adjoining the Firgrove subdivision should be considered as a green belt buffer and be connected to the Eulomogo Road. This would also assist in mitigating the next point.

7. Overland flow during flood events – this is a serious problem on the land between the Firgrove subdivision and the Firgrove homestead area. The slope in places on this area must be approaching protected land status. The developer has already had to install a levee downslope on his homestead block to divert water flow between (and not through) Firgrove houses particularly those along Delalah Downs Road. The clearing of this land and construction of houses will significantly add to any storm water and overland flow impact downslope. The potential for soil erosion on this soil type if the little existing topsoil is lost, will be catastrophic if gully erosion starts. We believe the enhancement of the condition and biodiversity of native vegetation in this area would be beneficial not only to neighbours but also the broader ecological function.
8. **In relation to the Firgrove community land** – this land of approximately 60 ha follows two tributaries of the Eulomogo creek running through the Firgrove subdivision. As Firgrove is strata title the community land is owned by ALL Firgrove lot holders who pay levees for its management by an elected Executive Committee. The land at the start of the subdivision was in places severely degraded with serious gully and creek bank erosion and increasing salinity. The residents formed a Landcare group and developed a plan for sustainable land management including passive recreation facilities. Some 13,000 trees were planted to improve environmental assets, walking tracks installed, signage erected, shed and BBQ constructed and tennis courts maintained. The biggest problem over the years has been non- residents trespassing and vandalising these facilities and particularly motorbikes using it for recreational purposes. The proposed subdivision will without doubt mean an increase in pressure on these facilities where none exist in the proposed subdivision. The Firgrove facilities are privately owned, and lawfully not available to other than Firgrove residents. Why should costly steps have to be introduced to ensure the security and asset protection of this facility for Firgrove residents?

We the undersigned agree with the objections outlined, and sent by email. We also request any future public consultation/notifications be directed to the Firgrove Executive Committee for distribution through the Strata manager, so as to inform all Firgrove residents (many had no knowledge of this proposal). Bathurst Strata Management, PO Box 404 Bathurst NSW 2795.

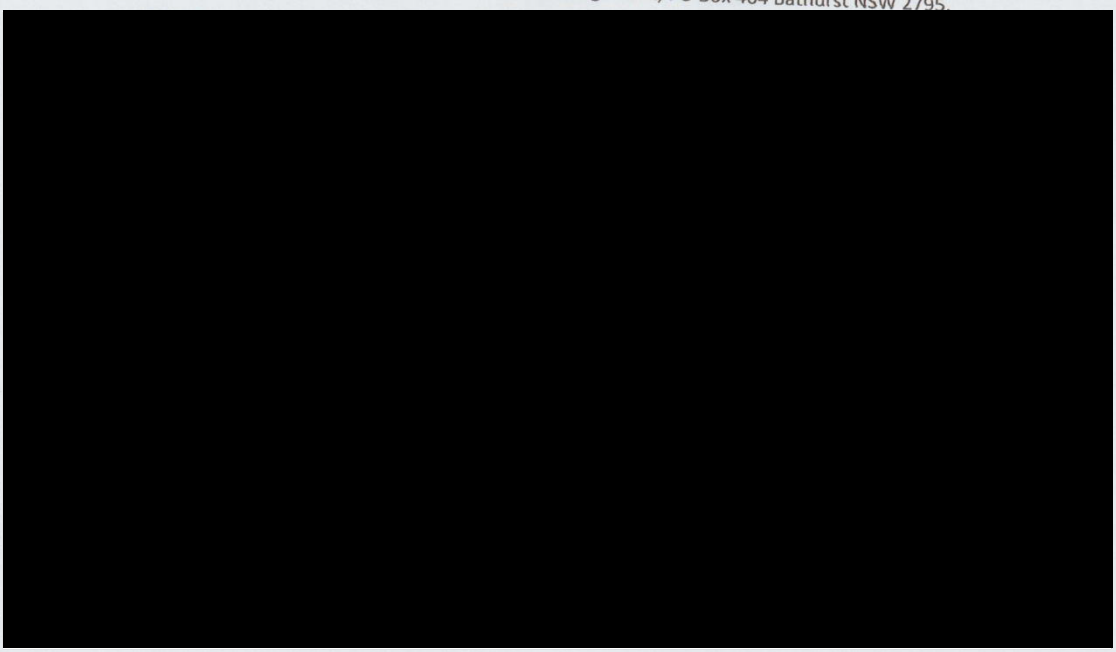
Name	Address	Signature	Date
[redacted]			

DAISY HILL OBJECTIONS

NAME	ADDRESS	SIGNATURE	DATE

[redacted]

We the undersigned agree with the objections outlined, and sent by email. We also request any future public consultation/notifications be directed to the Firgrove Executive Committee for distribution through the Strata manager, so as to inform all Firgrove residents (many had no knowledge of this proposal). Bathurst Strata Management, PO Box 404 Bathurst NSW 2795.



"ATTACHMENT 1"

DAISY HILL PROPOSED SUBDIVISION

1. INFORMATION FOR ANY INTERESTED FIRGROVE RESIDENTS
2. EMAIL RESPONSES

Recently some Firgrove residents received a letter from the NSW Department of Planning Industry and Environment regarding submissions about the proposed subdivision of land adjacent the Eulomogo Road. The proposal is titled:

Panel Reference Number 2016 WES006 – Dubbo – PP _2016_Dubbo_ 005_00 – Daisy Hill, Dubbo to reduce the minimum lot size of zone R5 – Large Lot Residential land to create 222 lots at land known as Daisy Hill, Dubbo.

This proposal is to subdivide the land into 222 lots (at this stage). The planning proposal and other accompanying documents can be found at the Planning Panels website: (www.planningpanels.nsw.gov.au) under "On Exhibition".

This information is to assist Firgrove residents in particular with an update on where the Daisy Hill planning proposal is at and how a submission in relation to the proposal (both supportive or any concerns) should be submitted. It is based on my understanding of the planning process for this proposal after two visits to the NSW Department of Planning Industry and Environment at Dubbo. The staff at the Dubbo office are very helpful, and anyone with questions should go see them at the Wingewarra Street offices 1st floor. However, the process is complex and I may not be correct with my following understanding.

This proposal has been going for about the last few years. It has been submitted by [redacted] of Bourke Securities Pty Ltd. The initial planning proposal to Council was to consider rezoning land and change the Local Environment Plan (LEP) as an initial step. Council didn't determine if they would accept it within 90 days as required. Bourke securities then applied to Council for Council to refer the proposal to the Dept of Planning Industry and Environment on its behalf which they did.

Following receipt of the proposal, the Dept has consulted various agencies and particularly experts in the field of salinity impacts to progress the proposal to the stage it is at now. This is part of a process called the pre gateway review, and includes looking at the broader strategic impacts and any justification. Planning is currently working through the gateway requirements, part of which is to determine community views on the proposal – hence the letter residents have received. Note that not all residents got a letter, the requirement is to notify immediate neighbours to the proposal – in this case all residents on the R side of Delalah Downs road, three on Toorale Rd the other on Wilfred Smith Drive.

It is important to note that the map showing proposed lots is very much a 1st proposal. This may be changed based on information/submissions the Dep Planning gets and considers with the help of an independent Regional Planning Panel.

So submissions at his stage are very important – otherwise the Dep may conclude there is no general community concerns.

Following the Dept process (and if accepted with changes or no changes), the proposal goes back to Council and the developer may submit a Development Application on the proposal that has been approved as acceptable to the Dept Planning. Council will again call for public submissions.

Submissions can be made to the above Department and must be in by Friday 16th August 2019. Submissions should be made via email to PlanComment@planningpanels.nsw.gov.au or by post to Planning Panels Secretariat GPO Box 39 Sydney NSW 2001 and clearly marked Planning Proposal Submission. A group submission (I'm advised) can be made but it must have the names, address and signatures of each person making the group submission. The Dept will then count each name as a submission.

I am prepared to draft a group submission, but to do that I will need to have all comments and names to me by Monday 12th August. I will then send each contributor an email of the draft for any final comments.

This note will probably be distributed by facebook or other social media means. I do not use facebook and will not be responding to anything sent to me on facebook (via someone else). Please use my emai[redacted]

Note: The Firgrove Executive Committee will be making a submission as a separate collective group.

Disclaimer: The information provided may not be accurate and is based on my conversations and notes taken during two meetings with the Dept Planning Industry and Environment. For clarity of my comments or questions relating to them, please contact the NSW Dept Planning Industry and Environment. [redacted] 1/8/2019.

SUBMISSIONS RECEIVED BY EMAIL IN RESPONSE

Hi [redacted]

My name is [redacted] and i live at [redacted] My partner, [redacted] and I would like to have our names put down for the group submission.
Our current concerns are:

1. Traffic - With the proposed lots (270) that would mean at least 1.5 cars per house therefore you would have an additional 405 cars using the road daily. The turn off from Mitchell highway onto Eulomogo Road would need to be upgraded, the turn off would need to be widened and made longer to accommodate cars turning (especially if a train is coming). Not only the turn off but that intersection is already dangerous in the fact that people are turning onto a 110Km/h zone. Not only Eulomogo road, that would mean Whitewood Road, Peachville road would also need to be upgraded. Also what about the turn off into Firgrove Homestead, that is dangerous as it is as it crosses on the side of a hill. Imagine another 100 cars crossing there daily, there is no doubt that someone will be badly injured coming from an 80km/h zone into a 100km/h zone, cars cannot stop quick enough as they are coming over the hill if someone was turning.

2. Water pressure - Water pressure in Firgrove is significantly low already. What are the developers going to do to improve this?

3. Wildlife - Daily there are at least 20 Kangaroos, rabbits, foxes roaming around in the paddock of Firgrove homestead hill.

4. Home/land values - People will no longer see Firgrove as exclusive, quiet and private. I work in real estate sales, Dubbo is not in a shortage of land, Dubbo does not need anymore lifestyle blocks. Dubbo is in urgent need of Apartments/units close to town, within walking distances to schools and parks NOT lifestyle blocks.

5. People of Firgrove pay strata for the tennis court, bbq etc. If this is the case how does the developer propose to stop people of "Daisy Hill" using this?

I have spoken to a number of people who have recently been involved with a similar case in Dubbo. They have advised that a submission should be very personal/emotional. They have also said try and get a petition going with as many signatures as possible such as change.org and get everyone to sign as well as a letter.

I look forward to reading over the submission.

Kind regards,

[redacted]

From: [redacted]
Sent: Monday, 5 August 2019 9:40 PM
To: [redacted]
Subject: Firgrove residents response to Daisy Hill Development: sorry [redacted], ran out of room, from [redacted]

Dear [redacted]
Thank you for drafting a group submission response for the Daisy Hill proposed redevelopment on behalf of Firgrove residents, we really appreciate your commitment, time and expertise in this matter. We have several concerns regarding the proposed reduction in lot size currently under discussion, and list them below. We note that the land became available for residential redevelopment in the LEP of 1998, which was replaced in 2011 by a zoning of R5 (large lot residential, minimum lot area 8HA) for most of the land in question, with the exception of Lot 200 (minimum lot area 1.5HA).The current proposal for Stage 1 of the redevelopment is proposing reduced

lot sizes. We mention these details as many comments on the Firgrove Community Facebook page relate to the fact that some people chose to live here based on present conditions, and claim to have been unaware of the Daisy Hill proposals; while we sympathise a good deal with such comments, they are, of course, irrelevant to our submission, as ignorance of proposed future planning, which has been obvious for many years, is not a defence. [redacted] first put his submission to Council for Daisy Hill in October 2013.

1 Roads
Looking at the plan carefully, we note 3 new roads with access onto Eulomogo Road, as well as one onto Pinedale Road. 2 of the proposed entrances onto Eulomogo are very close to Torwood Road. We believe road egress at these 2 points, in particular, are dangerously located, as they are close to the top of the "hill', and to Torwood Rd, which is already plagued by its' poor line of sight location. For cars rushing to turn right onto Eulomogo Road (towards the Highway), it would be exceedingly dangerous.Lowering the recommended speed would not reduce the inherent danger in our opinion. These hill top road entrances are also at the position where kangaroos regularly cross, although they will probably move on once development starts.
Eulomogo Road is an ordinary road, filled with potholes that reappear regularly, and it's difficult to imagine how it would cope with a huge influx of vehicular traffic during both construction and completion stages.

2 Water
Water pressure is already poor at times in Firgrove. How will the developers protect our tap water supply?

3 Water…salinity, groundwater vulnerability and drainage problems.
We would like to know what [redacted] proposes to do on all 3 fronts. A neighbour further "up the hill" from our place had changed the natural water course across his land, resulting in our garage being completely flooded, and the house saved only by sandbagging by the SES (last big rains). We expect the new development to have adequate drainage and soil management systems in place to prevent controllable flooding, bogging and water pooling.
As the development is in the Troy Gully catchment area, we expect adequate precautions will be in place to protect the soil.

4 NBN, television, phone
Firgrove is serviced by NBN wireless, the quality of which can be poor when there are many users; will the new lots have FTTN or FTTP connections? Will there be another tower for mobile reception?
And what about television? It's rare that a week passes without programme disruption!

5 Fire
Will services at Eulomogo fire station be upgraded? Will the station be ready to cope with such a big volume of new housing on their doorstep?

6 Sewerage
Will the new lots have their sewerage connected to the town, or have septic or environmental systems? if it will be one of the 2 latter choices, how can we ensure they are adequately serviced and maintained? Its' not unusual to experience the occasional "whiff" in Firgrove, would like this aspect to be considered

7 Firgrove residents facilities…tennis courts, cricket nets, barbecues, walking trails, dams, golf course.
These facilities are owned and maintained by the Firgrove residents, for the use of Firgrove residents. How can we protect our facilities?

8 Open space
We are unable to determine any recreational facilities being proposed for the new development, no open space, no parks, no playground, nothing at all. This, of course, may point residents towards the Firgrove facilities.

9 Reduction in quality of life for Firgrove residents…

Panel Reference Number 2016 W E S 006- Dubbo PP 2016- Dubbo- 005-00 Daisy Hill Dubbo

We wish to express our concerns regarding the proposed development in East Dubbo , known as the Daisy Hill Subdivision. This development will be between our property in Firgrove and the city of Dubbo

Our main concern is in regards to traffic issues. Looking at the plans one of the proposed new roads will come out onto Eulomogo Rd just over the crest of a hill. With the potential additional volume of traffic using this road it becomes a safety concern.

Another traffic issue is the entry onto the Mitchell Highway (Wellington Rd) This becomes a bottleneck in the morning with current Firgrove residents trying to enter the highway to go to work. Add another (potential) 200 plus cars using the road at this time of day and the risk of accident is greatly multiplied, especially when you take into account the fact that the speed along the Mitchell Highway at that vicinity is 110klm/hour.

At the moment we have good water pressure where we are but when talking to other residents we have learnt that this is not the case in other areas of Firgove and we are concerned that another 200 plus houses drawing off the water here would reduce our water pressure. When we purchased this block 15 years ago it was because of the life style it would offer us and we don't like the thought of that life style potentially being compromised.

Another water issue is- at the moment we are on water restrictions and while it will rain again sometime and those water restrictions will be lifted there will be more droughts in the future and water restrictions will be reimposed so we question the wisdom of adding another 200 plus properties to the area meaning a greater drain on the water resources.

[redacted]

[redacted]

Dubbo

[redacted]
Sun 4/08/2019 7:50 PM

- You

daisy hill.docx
92 KB
Hi [redacted]

We had drafted the attached letter to send to the relevant authorities regarding the proposed subdivision but feel our concerns might be better included in a group submission.

Thanks very much for being prepared to put together a group submission for concerned Firgrove residents.

One issue that could be a bit of a concern for us- you will need signatures from everyone involved in the group submission and we will be away from 18th –27th August, though if it all has to be completed by 16th we will be here to add our signatures

Regards

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Fri 2/08/2019 12:15 PM

- You

.

Gday [redacted]

Its [redacted] here from [redacted]

In relation to your recent letter that was shared to the Firgrove community Facebook page concerning the proposed Daisy Hill development.

We have some serious concerns regarding this proposed development and the possible flow on effects onto Firgrove

1 -

Traffic, We are very concerned about the large amount of possible traffic in and out of the Eulomogo Rd off the Mitchell Hwy.

In peak times now it is an already very dangerous and congested intersection for residents trying to turn right onto the Mitchell Hwy from the Eulomogo Rd.

I have been in a traffic cue for over 5 minutes on the odd occasion whilst trying to turn onto the Mitchell Hwy due to traffic coming from the East (Wellington).

Not to mention the constant near misses of impatient drivers pulling onto the mitchell hwy.

Last year saw a serious head on collision of one of our firgrove residents ([redacted] at said intersection with thankfully no oene seriously injured.

A serious upgrade to this intersection would have to be undertaken to allow for what couyld be double the amount of traffic that already now uses this road/intersection.

2 -

What is the current zoning of this land they intend to develop?. If its semi rural, then why are they proposing alot of smaller non semi-rural type developments?

We are very concerned about the impact of having so many smaller lots in the proposed development.

Most residents have purchased property out this way at GREAT PERSONAL AND FINANCIAL EXPENSE so they can live and provide a peaceful semi-rural existence for their respective families,

To have a proposal for a huge amount of smaller lots, one can assume that would mean a lot cheaper more affordable homes will be available that will target investors and the rental markets.

This in itself is not a bad thing for Dubbo in general, but with an abundance of rental properties usually comes tenants who are not connected to and care about the areas they live in as much as citizens who have financial and community interests at heart.

With cheaper and more affordable homes available nearby, will this then potentially affect current property values for of current firgrove residents??

3 -

As residents of Firgrove, we pay strata management fees for the maintaunce and usage of the Firgrove public land such as the tennis courts, cricket nets and BBQ area.

How will this be succesfully managed with the possible influx of 100"s of extra residents that might want to use these facilities. Will they be added to the strata to also pay fees for these facilities?

Thanks again for the opportunity to pen my concerns.

If you require any further info, please don't hesitate to contact me on my listed contacts below.

Cheers

Thanks and Regards

[redacted]
[redacted]
M. [redacted]
E. [redacted]

[redacted]
Wed 31/07/2019 4:47 PM

- You

.
Ross

Points to consider:

* The effluent from 330 properties must affect the salinity of the area
* Loss of rural aspect of living at Firgrove
* The increased water supply & possible loss of pressure to Firgrove residents

* The access to Eulomogo Road by Firgrove residents will take longer & be more dangerous (blind corners, etc)
* Access to the Highway will be a problem with possibly 300 more vehicles try to enter Highway between 7 and 9 am during the week.
* Will traffic lights or a round about be required

Cheers
[redacted]

[redacted]
Thu 1/08/2019 12:59 PM

- You;
- [redacted]

.
Good morning [redacted],

[redacted] and I have had a chat and come up with the following.

1. Access to the Mitchell Highway from Eulomogo Road (At the Radio Tower End) and access from the Highway into Eulomogo Road at the same junction.
   Bearing in mind that there is a rail crossing At this intersection a doubling in expected traffic flows will make this an extremely Dangerous Roadway
   The intersection is currently dangerous enough and A Major Upgrade would be necessary to ensure Community safety.

2. Water Security and Water Pressure Guarantees for existing Firgrove residents and the Common Area cannot be compromised.

3. Existing Eulomogo Road Width and Structural Integrity. Will there be an Upgrade to the existing pavement to accommodate doubling of traffic flows.

4. Public Space, there is no public space in the proposed development, As Firgrove Residents who collectively own our common area land and pay levies accordingly what guarantees or compensation will be given to us by the Developer for the impacts we will face from these new estate Residents on Our Land.

5. Eulomogo Bush Fire Brigade. Current Firgrove Residents and the executive Committee are Extremely concerned that the current facilities will be inadequate and in Need of Major Upgrade.

6. Eulomogo Road Speed Limit needs to be reviewed because of the three road entrances from the new development.

   Hope these help and are clearly explained.

   Give us a bell if more info required.

Regards [redacted]

[redacted]
Thu 1/08/2019 10:30 PM

- You

Hey [redacted]

Just received a message from [redacted] about the Daisy Hill proposal.

I've shared the link to Firgrove FB page, fingers crossed it stirs some interest.

I for one, am totally against the idea of 27 house blocks rite on our door step, considering we all have paid good money to 'away from the city limits' & enjoy the rural outlook.

I'm very concerned that if it is allowed to go ahead, it will have serious detrimental affects on out life style.
Extremely unhappy with the fact the current proposal actually being considered.

200+ houses will bring crime, traffic congestion, accidents, frustration to all whom live here at present.

Infrastructure is inadequate for 200+ households, which would convert to 400 cars minimum, all trying to enter the single lane highway, with 110 Kph zone from Eulomogo road & Myall St, is asking for trouble.
Adding to the the growing number of cars from the existing Firgrove residences

These roads are already congested at certain times of the day.
Not to mention the cjange in the land scape, more animals, the lack of security for Strata paying residence of Firgrove.

The proposed access off Eulomogo roads, approx. were the 80km signs are is a dangerous location as well.

Seems to be a very sneaky development, as not many of the Firgrove residence have been informed of said development.

Hope this is helps...

Regards

[redacted]

[redacted]
Thu 1/08/2019 10:30 PM

- You

Hey [redacted]

Just received a message from [redacted] about the Daisy Hill proposal.

I've shared the link to Firgrove FB page, fingers crossed it stirs some interest.

I for one, am totally against the idea of 27 house blocks rite on our door step, considering we all have paid good money to 'away from the city limits' & enjoy the rural outlook.

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The proposed access off Eulomogo roads, approx. were the 80km signs are is a dangerous location as well.

Seems to be a very sneaky development, as not many of the Firgrove residence have been informed of said development.

Hope this is helps...

Regards

[redacted]

[redacted]
Fri 2/08/2019 7:01 AM

- You

Hi [redacted]

[redacted] and [redacted] here. We would like to go on the group submission for the proposed new estate near Firgrove daisy hill.

It's so disappointing to hear that they are considering to go ahead with this. We moved out to firgrove about 5 years ago. We have loved the extra space and being away from too many houses, people and traffic.
By them building 222 more houses on our road into and out of firgrove, not only is it going to feel like we are back in town, but the traffic to get onto the highway and out of the estate is going to be extremely busy and extremely dangerous. We moved out here to be away from all of that.

Thanks,
[redacted]
[redacted]

Submission for proposed Daisy Hill development

The following are our concerns for this proposed development

(a) There is not adequate infrastructure to cope with the size proposed
i.e our water pressure at home is low now

(b) The road in needs to be upgraded. The number of extra cars will greatly impact on its condition.

(c) The highway intersection will also need to be upgraded

(d) Dubbo is on water restriction now – the impact of 220 more households will be disasterous

(e) The amenity of our community will be compromised.

[redacted]

Planning Panels Secretariat

Notice of Exhibition – Western Regional Planning Panel

Panel Reference Number 2016WES006 – Dubbo – PP_2016_Dubbo_005_00 - Daisy Hill, Dubbo

PLEASE WITHHOLD OUR NAME AND ADDRESS

With regard to this development, there are several concerns we have about the impact Daisy Hill will have on the current roads adjacent to and feeder roads into this area.

Until these concerns are addressed we would NOT be in favour of this development

222 lots have been proposed for the Daisy Hill Dubbo development. Without much calculation required it will be easy to work out that 99% of these holdings will be 2 car families meaning there is easily going to be approximately 400+ new car movements daily around this new development. This will be in addition to the existing homeowners in Firgrove Estate and the wider district of Eulomogo who currently use the existing roads that Daisy Hill has been tacked onto, these being Eulomogo Road, Peachville Road, Torwood Road and Pinedale Road.

Eulomogo Road is the main feeder road in and out of Firgrove Estate onto the Mitchell Highway, the main highway east of Dubbo towards Sydney. It has A LOT of traffic on it, with Dubbo being the largest centre for work in the Central West. It is particularly busy at the peak times when people are commuting to and from work and drop off and pick up time for school. Currently, when turning right from the junction of Eulomogo Road onto the Mitchell Hiighway toward Dubbo there is NO dedicated lane to turn into to allow the driver to then merge with the traffic already travelling along the highway AT 110KLM/HR. The driver has to wait, often very patiently, for suitable breaks in the traffic from both directions before being able to then turn right and accelerate quickly. This dangerous situation is going to compound significantly with the huge increase in numbers of car movements from the Daisy Hill development.

There is a close by community called Wongarbon whose population is documented at 400. This population number is quite similar to the Daisy Hill development numbers without considering the existing surrounding homeowners and this community had the same Mitchell Highway issue. It is our understanding this was not addressed until there was 2 separate fatalities at this intersection. We have a daughter who is currently on her L plates and we feel very strongly about the potential for this to happen at the Eulomogo Road/Mitchell Highway junction. We personally know multiple families in Firgrove Estate who have similar aged inexperienced drivers to us who will be facing this risky right hand turn onto the Mitchell Highway. Please do not leave this intersection in its current format, lets be proactive not reactive and prevent any further unnecessary fatalities. The best solution we see is to upgrade the junction to the same configuration as the Wongarbon intersection or the intersection of the Blueridge Estate onto the Mitchell Highway just a little further along the highway toward Dubbo. We implore you to rectify this issue.

Pinedale Road is the other road which is marked as an access road into and out of Daisy Hill. Whilst the plan has cleverly been designed for this road to join at the level of the existing tarred area, the width of this road is NOT a 2 car width. Currently the existing residents of this road, when passing each other, have to put their respective outer passenger side wheels off the road onto the verge to ensure safe passing and this is for family cars. When the school bus or trucks are involved one must basically pull over for the passing to be safe. This is currently not a satisfactory arrangement that alone once the extra traffic from Daisy Hill comes online. An upgrade to this road to safely allow 2 vehicles (including buses/trucks) to pass must occur for this development to be safe for all concerned.

Pinedale Road also currently has 2 dangerous right angle bends one left hand and one right hand half way along the length of the road. They are further along the road than the proposed junction with the Firgrove Road. The council has, in the last couple of years, tarred the bends in an attempt to make them safer (due to multiple prior driver misjudgements of the bends), as an interim measure prior to rectification of the road pathway. Back in 2011, as residents of this road, we were informed that the council was going to straighten the road alignment and tar the road within the next 2 years. We have been informed that the council resumed land on the left hand bend when that land was subdivided a few years ago. The same was meant to occur on the right hand bend side – the land involved in this development. We cannot see on the plans any allowance for this to happen – what has happened to this sorely needed correction to the bends on Pinedale Road. Now is the time for this to be sorted out for the existing and future resident of this area and the users of this road.

The first 2 klm of Pinedale Road is sealed with the rest of the road unsealed with a good portion of the houses backing onto this and the also unsealed Torwood Road. The dust pollution for the new residents who back onto these parts of the road will be significant, whilst also increasing the dust load for existing residents. As we have already pointed out, there will be a significant increase in vehicle movements around this development and the unsealed parts will be used by some of these vehicles as shortcuts to access other areas of Dubbo and surrounds. There is also going to be a change in the atmosphere for the existing residents who currently enjoy rural views across these paddocks – we will be staring into the back of peoples houses!!! I have noticed on the plan there is a vegetation/tree strip from the corner of Torwood Road and Pinedale Road that runs a little way down along Pinedale Road. Why has this not been continued down the full length of the road/Daisy Hill development interface? Can this also be addressed please – there can only be a benefit for all humans and animals with the extended planting of local native vegetation, assisting in buffering the dust load and to soften the visual pollution this 222 lot development will definitely cause.

Thank you for the opportunity to comment on this development.

Regards

[redacted]

Planning Proposal Submission

15th August 2019

Re: Daisy Hill Estate Proposal

Panel Reference Number: 2016WES006

Planning Proposal Number: PGR_2016_DUBBO_005_00

Stand: Support, with considerations to observe

Thank you for taking into account the communities' feelings regarding the proposed development to the Firgrove area of Dubbo, creating Daisy Hill. I would like it to be noted that my husband and I support the development of the area into the proposed large blocks, just like in the Firgrove Estate. We don't feel however that the 0.6ha blocks should go ahead with this size and type of property not carrying forward with the existing surrounding areas. We would also like the following to be taken into consideration:

Firstly, we moved into Firgrove just 12 months ago, choosing the area due to its unique closeness to Dubbo, while still giving us the space and country feel that we were looking for. We also noted that the area has a wonderful abundance of wildlife from a local mob of kangaroos to eagles and other native birds and lizards which frequent the area. I can see that the area being proposed currently has little vegetation. With increased small acreages we will see more native vegetation, hopefully encouraging more native wildlife species, while limiting the destructive nature of the kangaroos.

Traffic: We are concerned with the increase in the amount of traffic on the Eulomogo Rd with an extra 284 houses, averaging over 300 extra cars on this road daily. Currently the road is 100km/hr and drivers run the risk of hitting wildlife which frequent the area. With extra cars we will start seeing more serious road incidents from hitting these animals which will be forced closer to the roads with the increase of infrastructure. Cars turning right (towards town) from Eulomogo Rd onto the highway will also pose greater threat to oncoming traffic. This turn can be hazardous already with this corner notoriously slippery, gravelly and potholed. In the past month we have almost had two head on collisions with cars when turning at this intersection due to cars overtaking at this point. I believe this is due to the lack of overtaking lanes between Dubbo and Orange; moterists are overtaking slower vehicles as soon as the double lines are finished without consideration to oncoming and turning traffic. Cars are turning onto a 110km/hr zone and with people rushing, once again we are bound to see accidents at this intersection. The proposed entrance to the new estate is located on a hill with little vision of oncoming traffic. Traffic turning across this intersection will pose great risk to other road users. I would propose using an alternative location for the entrance to this estate.

Internet and Phone: Internet in this area is already over stretched and would require upgrades to accommodate for the extra customer demand. Phone reception is sketchy and again there would be a lot of unhappy customers who assume that they are moving into an area of decent reception and speed.

Post: It should be noted that the Firgrove area does receive small envelope mail but does not receive ANY parcel post and all residents are required to travel to the post office on Talbragah Street, meaning an increase in traffic to this area of town as well as added demand to the post office itself.

Septic: The area does not cater for septic and each property houses it's own septic system. This isn't a problem for the proposed 1.5ha+ sized blocks but I feel it will for the 6000m2 lots with septic being used on gardens and the smells associated with these systems effecting home owners and tenants in the area.

Overall, we understand that extra housing will mean extra money for the developers, but in the long run the small blocks do not fit with the area it is being proposed within the Firgrove area catering for that country feel that residents are after. We are in support of the larger blocks being developed but there are several areas that will need to be developed in correlation with the area including phone and internet, postage services, road upgrades and consideration to the septic systems.

Thank you for listening to our view and concerns for the development of Daisy Hill Estate.

[redacted](please withhold names)

[redacted]

Political Donations Disclosure Statement to Minister or the Director-General

If you are required under section 147(3) of the Environmental Planning and Assessment Act 1979 *to disclose any political donations (see Page 1 for details), please fill in this form and sign below.*

Disclosure statement details

Name of person making this disclosure [redacted]

Planning application reference (e.g. DA number, planning application title or reference, property address or other description)

Daisy Hill Estate Proposal: PGR_2016_OUBBO_005_00

Your interest in the planning application (circle relevant option below)

You are the APPLICANT YES / (NO) OR You are a PERSON MAKING A SUBMISSION IN RELATION TO AN APPLICATION (YES) / NO

Reportable political donations made by person making this declaration or by other relevant persons

* *State below any reportable political donations* ***you have made*** *over the 'relevant period' (see glossary on page 2). If the donation was made by an entity (and not by you as an individual) include the Australian Business Number (ABN).*
* *If you are the* ***applicant*** *of a relevant planning application state below any reportable political donations that you know, or ought reasonably to know, were made by any persons with a financial interest in the planning application, OR*
* *If you are a* ***person making a submission*** *in relation to an application, state below any reportable political donations that you know, or ought reasonably to know, were made by an associate.*

Name of donor (or ABN if an entity)	Donor's residential address or entity's registered address or other official office of the donor	Name of party or person for whose benefit the donation was made	Date donation made	Amount/ value of donation
NIL.				

Please list all reportable political donations—additional space is provided overleaf if required.

By signing below, I/we hereby declare that all information contained within this statement is accurate at the time of signing.

Signature(s) and Date [redacted] 15 August 2019

Name(s) [redacted]

Mellissa Felipe

From: [redacted]
Sent: Friday, 16 August 2019 4:35 PM
To: Plan Comment Mailbox
Subject: Planning Reference 2016WES006 - Dubbo - PP_2016_Dubbo_005_00

We wish to object to the proposal to reduce the minimum lot size of Zone 5.

Of the existing 8 hectare properties, we would be the most effected if this development was to go ahead, with 6 x 6000sqm blocks on our eastern boundary. The effect would be to take away the very reason why this block was purchased by us allowing a quiet, peaceful & non-conjested life style.

As of now we have the opportunity to travel to & from the block with limited traffic.
The proposed plan does not take into consideration the existing 8 hectare properties. Why are the breakdown in lot sizes effecting our boundary not the proposed 8 hectare blocks or 1.5 or 3 hectare blocks, further towards the east?

We have planted & nurtured a large number of trees to help the environmental repair. We have no doubt if development was to go ahead we have in fact wasted our time, effort & money.

The single entrance from Pinedale Road to the proposal is at the very least a fundamental floor of the whole proposal. Over 100 small holdings could be accessed from this single entrance. The extra traffic would be a dramatic life style change for existing land owners. Pinedale Road would need to be upgraded to a stage where existing vegetation would be removed and the very essence of the area lost.

Regards

[redacted]

ED19/118505
SJF/TAF

16 August 2019

DUBBO REGIONAL COUNCIL

Planning Panels Secretariat
GPO Box 39
SYDNEY NSW 2001

PlanComment@planningpanels.nsw.gov.au

Dear Sir/Madam

WESTERN REGION PLANNING PANEL, PUBLIC EXHIBITION OF DAISY HILL PLANNING PROPOSAL – DUBBO REGIONAL COUNCIL SUBMISSION

I refer to the Planning Proposal as provided above and the public exhibition process. Please accept the attached submission package for the Planning Proposal, consisting of the following:

- Submission cover letter
- Council written submission
- Review of Daisy Hill Groundwater and Salinity Study and Management Study.

Council remains concerned that the Planning Proposal and resultant development of the subject land as proposed is likely to result in deep drainage leaving the site and potentially resulting in impacts to existing residential development in the Troy Gully Catchment as a result of salinity.

Of particular concern to Council is the fact that this Planning Proposal continues to be furthered by the Western Region Planning Panel and the Department of Planning, Industry and Environment without compliance with the determinations of the Panel.

If you require any further information please contact the undersigned.

Yours faithfully

Stephen Wallace
Director Development and Environment

Attachments:
1. Submission cover letter
2. Council written submission
3. Review of Daisy Hill Groundwater and Salinity Study and Management Study

All communications to: **CHIEF EXECUTIVE OFFICER**
ABN 53 539 070 928
PO Box 81 Dubbo NSW 2830
T (02) 6801 4000 **F** (02) 6801 4259 **E** council@dubbo.nsw.gov.au
Civic Administration Building Church St Dubbo NSW 2830
W dubbo.nsw.gov.au

HGP

RECEIVED
30 JUL 2019

DUBBO REGIONAL COUNCIL

PUBLIC SUBMISSION FORM

DUBBO REGIONAL COUNCIL
RPS-2
ACTIONED TO ..HGP..
31 JUL 2019
CONTAINER # ..AUB/1223..

DATE 30/7/2019

NAME [redacted]

PHONE

ADDRESS

COMMENT DEAR SIR/MADAM,

I am writing to express my very real concern about the proposed Daisy Hill Estate. Firstly, but probably of lesser import is that this is prime agricultural land - and having a lack of that in Australia, to use it for an estate such as this is a poor use of resources.

Secondly, the water situation recently has shown us, that Dubbo does not have capacity to supply endless water. Until this situation is addressed, no new estates should go ahead.

Thirdly and most importantly, is the situation of the roads. The T-intersection where Eulomogo Road joins the Highway is a very dangerous intersection.

PTO

Dubbo.nsw.gov.au
Fb.com/DubboRegionalCouncil
(02) 6801 4000
Cnr Church & Darling Streets, Dubbo
Cnr Nanima Crescent & Warne Street, Wellington
PO Box 81, Dubbo NSW 2830

I have seen a number of near misses, as cars try to enter fast moving traffic. It is a wonder there has not been a bad accident there already. This problem will need to be addressed and should have been addressed a long time ago. It needs a pull in lane and more signage. It is already an issue as people go to work in the morning, and there is often a line up of cars waiting to get out onto the highway - into a line of traffic - of generally people who are also rushing to get to work.

Please - something needs to be done here. The second turn in into Firgrove has been made safer, as it was very dangerous and at time scary. Please make the first entry and exit safer. If this estate goes ahead the intersection must be made safer. If there is a fatality there, then it will be because of increased pressure at that intersection.

Please do not allow this proposed estate to go ahead till it has been well thought through.

Yours most sincerely,

[redacted]

[redacted]

Review of Daisy Hill Groundwater and Salinity Study and Salinity Management Strategy

Prepared for: **Dubbo Regional Council**

August 2019

Prepared by: [redacted]

SUMMARY

The groundwater and salinity study and salinity management strategy for the proposed Daisy Hill Estate relies on at least 7 reports that contain an updated study, modifications to the study, reviews of the study, and management plans.

The salinity management strategy and vegetation management plans divide the proposed development into 2 groundwater flow regimes.

Approximately 25% of the proposed development has a slightly to moderately saline soil profile, groundwater levels of 1.4 and 5.6 m and highly saline groundwater. It appears that the salinity management strategy and vegetation management plans focus on managing the intermittent shallow groundwater and waterlogging that one of the peer reviewers recognized. This will be done by planting a large proportion of these areas to perennial vegetation of trees and shrubs to intercept local shallow groundwater.

The remaining 75% of the area has soil with generally low salinity and groundwater deeper than 12 m. The groundwater model used to support the salinity management strategy assumes that water will move laterally through this material without causing recharge to the underlying formation. However, it is likely that water will drain into the formation and contribute groundwater to lower land, such as Troy Gully, for the following reasons:

- Salinity profiles in this soil indicate that water drains past 6 m.
- Australian research has found that trees cannot lower groundwater levels deeper than 6 m below the surface, so the groundwater in these areas will need to rise more than 6 m into the tree rootzone in order for trees to extract water from other domains.
- Investigations have found that water levels between the tree belts must be shallower than under the tree belts in order to push water to the tree belts. So, the groundwater will need to rise more than 6 m between the tree belts for this lateral flow to occur.

One reviewer recommended that the proposed development be staged in order to judge the success of the salinity management strategy. The second reviewer modelled that it takes more than 16 years for groundwater to reach steady state at 6 m. Consequently, more than a decade between stages will be required to assess the effectiveness of the salinity management strategy.

Background

The proposed Daisy Hill Estate occupies Lot/Plan 200/DP825059, 661/DP565756, 661/DP565756, 64/DP754287, 65/DP754287, 316/DP754308 and 317/DP754308, and covers approximately 430 ha (Envirowest Consulting, 2017). Bourke Securities plans to change the landuse from grazing to 222 rural residential lots (Daisy Hill DCP Masterplan, downloaded from https://www.jrpp.nsw.gov.au/OnExhibition/tabid/112/ctl/view/JRPP_ID/2677/mid/534/language/en-AU/Default.aspx on 8/8/2019).

This report reviews the information presented in the Envirowest Consulting (2017a) groundwater and salinity study, supplementary information in the Envirowest Consulting (2017b) study, additional information in the Envirowest Consulting (2018a) report, reviews of this suite of reports, and a salinity management strategy and vegetation management plan that use the findings from the Envirowest Consulting reports and reviews of this work. These reports are listed in Table 1.

Table 1. Reports relevant to proposed Daisy Hill Estate salinity and ground water current at 8/8/2019.

Author, date, Report id	Report Title	Function
Envirowest Consulting, 10/8/2017. R13365s6	Updated groundwater and salinity study: Daisy Hill Estate: Proposed subdivision of Lot 200, DP825059, Lots 661 and 662 DP565756, Lots 64 and 65 DP754287, Lots 316 and 317 DP754308, Eulomogo Road, Dubbo NSW	Description of soil and groundwater patterns beneath proposed Daisy Hill Estate and an outline of salinity management strategies.
Envirowest Consulting, 12/12/2017. R13365s13	Hydraulic model simulations for Daisy Hill	Estimates of recharge beneath 3 typical profiles for 5 landuse types based on 1-Dimensional water flow model.
Soilwater Consultants, 16/4/2018. BSP-001-1-10	Daisy Hill groundwater and salinity study peer review	Review of groundwater and salinity study and hydraulic model simulations commissioned by Bourke Securities.
Envirowest Consulting, 18/4/2018. R13365s13	Additional groundwater information Daisy Hill	Expansion of 1- dimensional recharge estimates to 2 dimensional estimates assuming horizontal water flow.
EMM, 14/6/2018. J180043RP2	Independent review of Daisy Hill groundwater and salinity modelling	Review of groundwater and salinity study, hydraulic model simulations and additional groundwater information commissioned by NSW DPE.
Envirowest Consulting, 1/11/2018, L13365sms208	Salinity management strategy Daisy Hill residential estate.	Recommended actions to reduce risk of salinity to acceptable levels.
Soilwater Consultants, 1/4/2019. BSP-002-2-2	Vegetation plan (VMP) for the Daisy Hill subdivision	Species, layout and management for vegetation buffers.

The review was conducted against principles of the Australian Groundwater Modelling Guidelines (Barnett *et al.*, 2012).

DESCRIPTION OF DAISY HILL GROUNDWATER MODEL

The modelling approach adopted by Envirowest Consulting (2017b, 2018a) was to divide the proposed subdivision into 5 groundwater domains (Figure 1). Each groundwater domain was allocated a different water flow regime (Table 2), and it was assumed that groundwater could flow freely between the 5 domains along 2 paths. The first lateral flow path is the two surface soil layers in Figure 1. The second lateral flow path is that trees can extract any water that leaks past the rootzone of effluent irrigation, lawns and pasture.

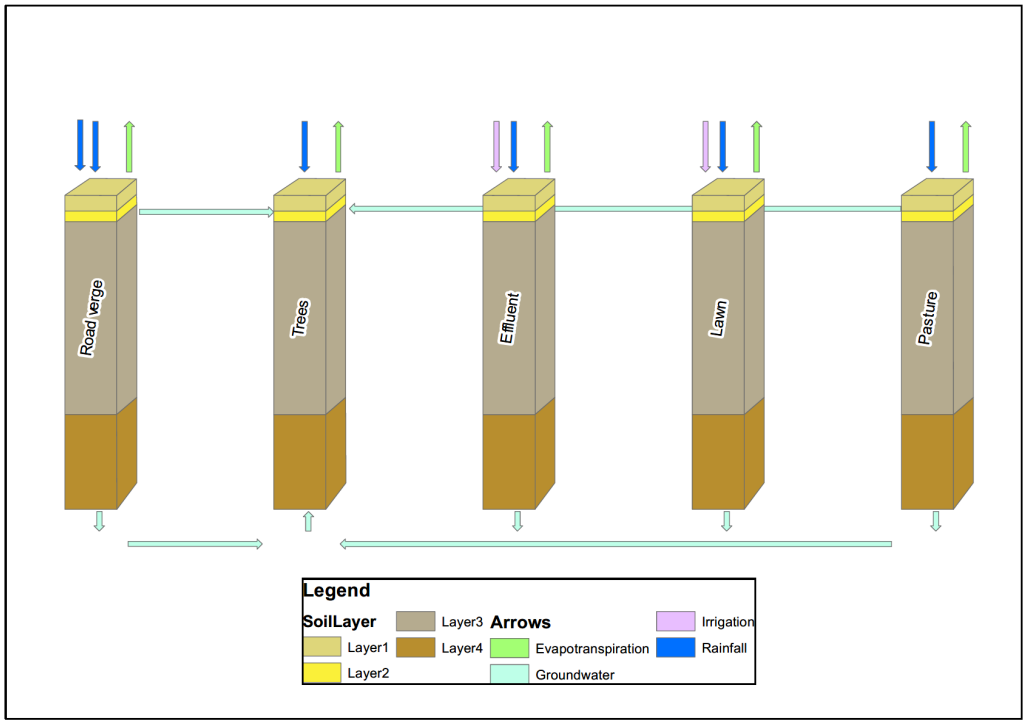


Figure 1. SSM interpretation of conceptual model used by Envirowest Consulting (2017b, 2018) for groundwater of proposed Daisy Hill Estate.

Table 2. Inflows and outflows for groundwater domains for proposed Daisy Hill Estate (from Tables 2 and 3, Envirowest Consulting, 2017b). Daily rainfall and evaporation were from Silo data drill for period from 1980 to 2014 (Envirowest Consulting, 2018a).

Domain	Surface water inflow	Transpiration	Groundwater inflow	Groundwater outflow
Road verge	Rainfall multiplied by 2	Crop Factor same as pasture	None	Modelled by CLASS U3M-1D direct to trees
Trees	Not modelled	Rainfall plus 0.5 mm/day	0.5 mm/day from all other domains	Assumed to be nil.
Effluent	Not modelled	Not modelled	Not modelled	0.5 mm/day direct to trees
Lawn	Rainfall plus 25 mm/week unless >20 mm rain or <20 mm evaporation (/week?)	Crop Factor same as pasture?	None	Modelled by CLASS U3M-1D direct to trees
Pasture	Rainfall	Pasture crop factor	None	Modelled by CLASS U3M-1D direct to trees

The gross groundwater inflows comprised solely of rainfall. Water applied by irrigation to lawns and to effluent disposal areas was assumed to come from runoff from 4.5 ha of buildings that is stored in water tanks. No balance of the water available and water used from these sources was calculated (Envirowest Consulting, 2018a, Table 3).

The source of water for effluent disposal was not reported by Envirowest Consulting, but Dubbo Regional Council reported that this water would be reticulated from the council water supply (L. Auld, pers comm.). This water source is supported by comments in the Vegetation Management Plan (Soilwater, 2019) that the location of stage 1 of the proposed Daisy Hill Estate will be constrained to being near an existing watermain (Figure 4.2, Soilwater, 2019). The inflow of the reticulated water into the proposed Daisy Hill Estate was not included in the Envirowest Consulting (2018a) water balance.

The area of each domain was reported in Table 6 by Envirowest Consulting (2018a). The total area of 380 ha in this on the pre-development Table 5 in Envirowest Consulting (2018a) was 50 ha less than the total area of the proposed estate of 430 ha reported by Envirowest Consulting (2017a).

The areas of each domain were estimated using the following procedures;

- Road verge area method was not reported.
- Area of trees was mapped in the Draft DCP Masterplan.
- Effluent disposal area of 0.05 ha/Lot (compared to 0.054 ha/Lot for Red Earth soil and 0.072 ha/Lot for Red Earth soil recommended by Envirowest Consulting, 2015).
- Lawn area of 0.13 ha/Lot (Envirowest Consulting, 2018a).

- Pasture area was calculated as the area of each lot that was neither lawn nor effluent disposal (calculated by difference between areas in Table 6, Envirowest Consulting (2018a) and Lot area in Master Plan (Heath Consulting, 2019).

The 5 groundwater domains were applied to 3, 6 m deep soil profile types. The soil hydraulic properties were default van Genuchten parameters in the CLASS U3M-1D model (Vaze *et al.,* 2004) for selected soil texture profiles that were logged by Envirowest Consulting (2017b).

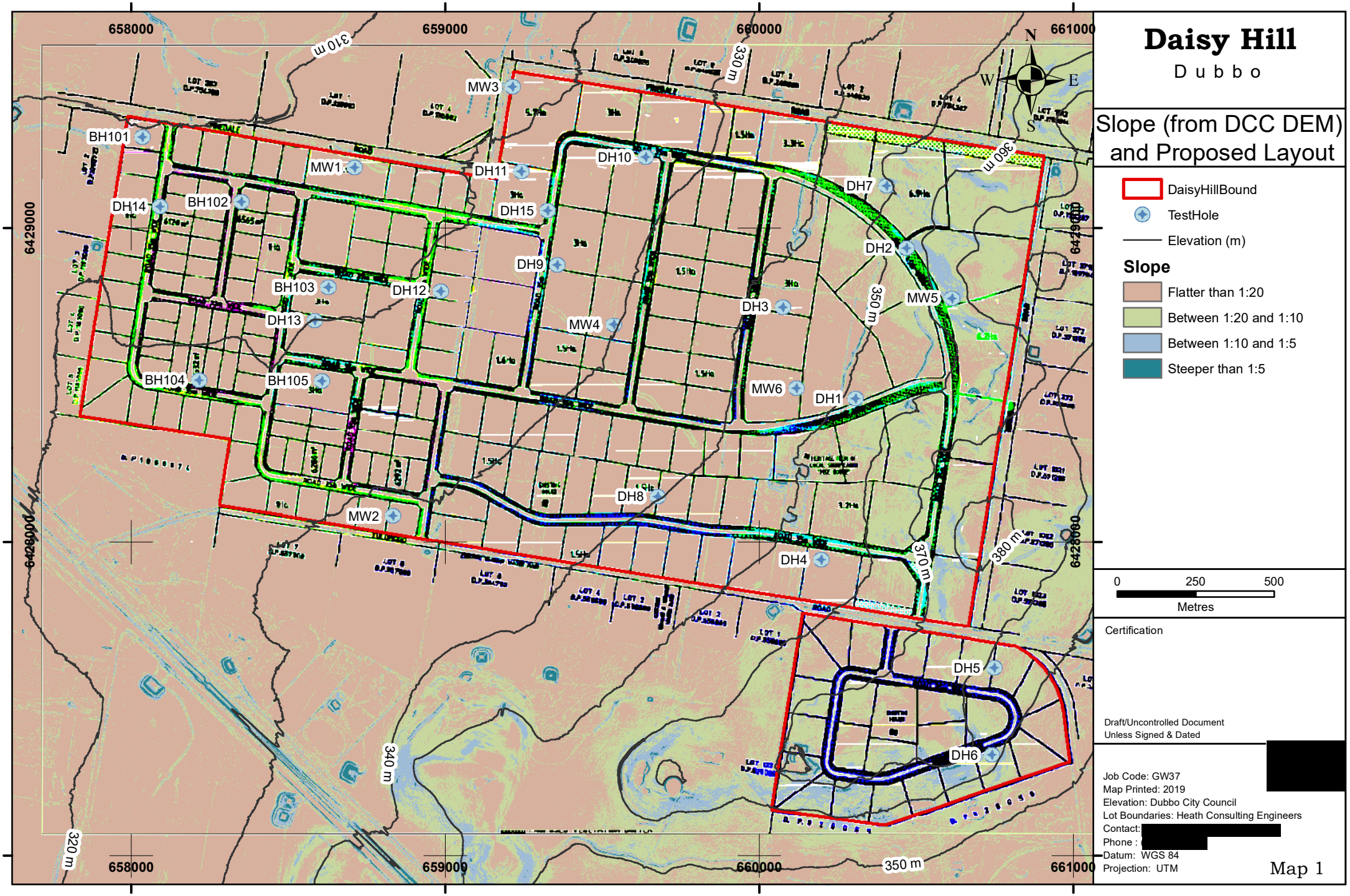
Lateral groundwater flow between domains is driven by fall across the land, and is assumed to occur with no head loss or regard to water content of the formation. The assumed fall across the land is 1:3 for upper slope, 1:12 for mid slope and 1:12 for lower slope (Figures 3, 4 and 5, Envirowest Consulting, 2018a). The slope of the proposed Daisy Hill Estate land surface both from a 1 m pixel DEM (Map 1), and from the distance between contours is generally substantially flatter than 1:20. This is flatter than the assumed slope for all 3 Lot schematics in Envirowest Consulting (2018a).

The speed of lateral flow is limited by the resistance of the soil to water flow, expressed as saturated hydraulic conductivity (Ksat). The Ksat values applied by Envirowest Consulting (2018a) to the surface 20 to 70 cm are substantially larger than default values in CLASS U3M-1D (Vaze *et al.*, 2004) or those applied by Soilwater (2018) as shown in Table 3.

Table 3. Comparison of saturated hydraulic conductivity (Ksat) values applied to proposed daisy Hill Estate groundwater study.

Soil Type	Saturated Hydraulic Conductivity (Ksat, mm/hr)		
	Envirowest Consulting (2018a)	U3M-1D default (Vaze *et al*., 2004)	Soilwater (2018)
Clay Loam	10 to 20	13.1 (sandy clay loam) 2.6 (clay loam)	13.1 (sandy clay loam) 2.6 (clay loam)
Sandy clay	2.5 to 5	1.2	1.2
Silty Clay	<2.5	0.2	0.2
Medium clay	<2.5	2	2

The model used by Envirowest Consulting (2018a) defines deep drainage from shallow rooted pasture, lawn and effluent disposal areas as water that has moved deeper than 1 m. This is deeper than the surface layer described above. As such, lateral flow of this deep drainage to the tree domain as shown in Table 6 of Envirowest Consulting (2018a) occurs through the medium clay and silty clay layers. Envirowest (2018a) justify the rapid lateral water movement in deeper layers in *"thin gravel and sand bands common in the profile".* These sand and gravel layers are explicitly noted in 6 of 28 logs in Appendix V of Envirowest Consulting (2017a).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Between 1:20 and 1:10
Between 1:10 and 1:5
Steeper than 1:5
0
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500
Metres
Certification
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Unless Signed & Dated
[redacted]
Job Code: GW37
Map Printed: 2019
Elevation: Dubbo City Council
Lot Boundaries: Heath Consulting Engineers
Contact: [redacted]
Phone : [redacted]
Datum: WGS 84
Projection: UTM
Map 1

Groundwater levels in the proposed Daisy Hill Estate were recorded in 8 piezometers constructed as 2 nests of 2 piezometers and 4 single piezometers. As such, this network measures groundwater levels at 6 sites. Groundwater levels were measured at the time of drilling and a few weeks later. At that time, the groundwater level was deeper than 12 m below the soil surface at 4 sites, 5.6 m at one site, and 1.4 m at the remaining site. The groundwater sampled at 3 of the 4 sites was highly saline (15 to 21 dS/m), while the remaining piezometer had saline groundwater (5 dS/m). This mix of groundwater salinity is substantially higher than recorded in the 12 piezometers closest to the proposed Daisy Hill Estate in which 42% of sites had salinity less than 3 dS/m (Envirowest Consulting, 2017a).

A water balance generated by Envirowest Consulting (2018a) indicate that annual average recharge under pasture beneath 380 ha of the proposed Daisy Hill Estate is 5.1 mm or 5,111 m^3. The Total Recharge of 5,111 m^3 differs from the sum of recharge from the separate domains of 19,087 m^3.

A similar water balance indicates that the post-development annual recharge from the proposed Daisy Hill Estate will be -4.9 mm or -16,632 m^3. This implies that there will be groundwater inflow from outside the proposed Daisy Hill Estate to satisfy the demand. Envirowest Consulting (2018a) do not indicate the source of the water to satisfy this calculated shortfall.

DESCRIPTION OF DAISY HILL SALINITY MODEL

Envirowest Consulting (2017a) measured soil salinity in 26 test holes drilled to between 6 to 16 m deep across the proposed Daisy Hill Estate. The pattern of salinity between these sites was correlated with apparent electrical conductivity (ECa) from an EM31 survey. The method used to map salinity patterns from the measured points is not documented.

The area of land with moderate risk of salinity was mapped as approximately 3% of the proposed Daisy Hill Estate (Figure 11, Envirowest Consulting, 2017a).

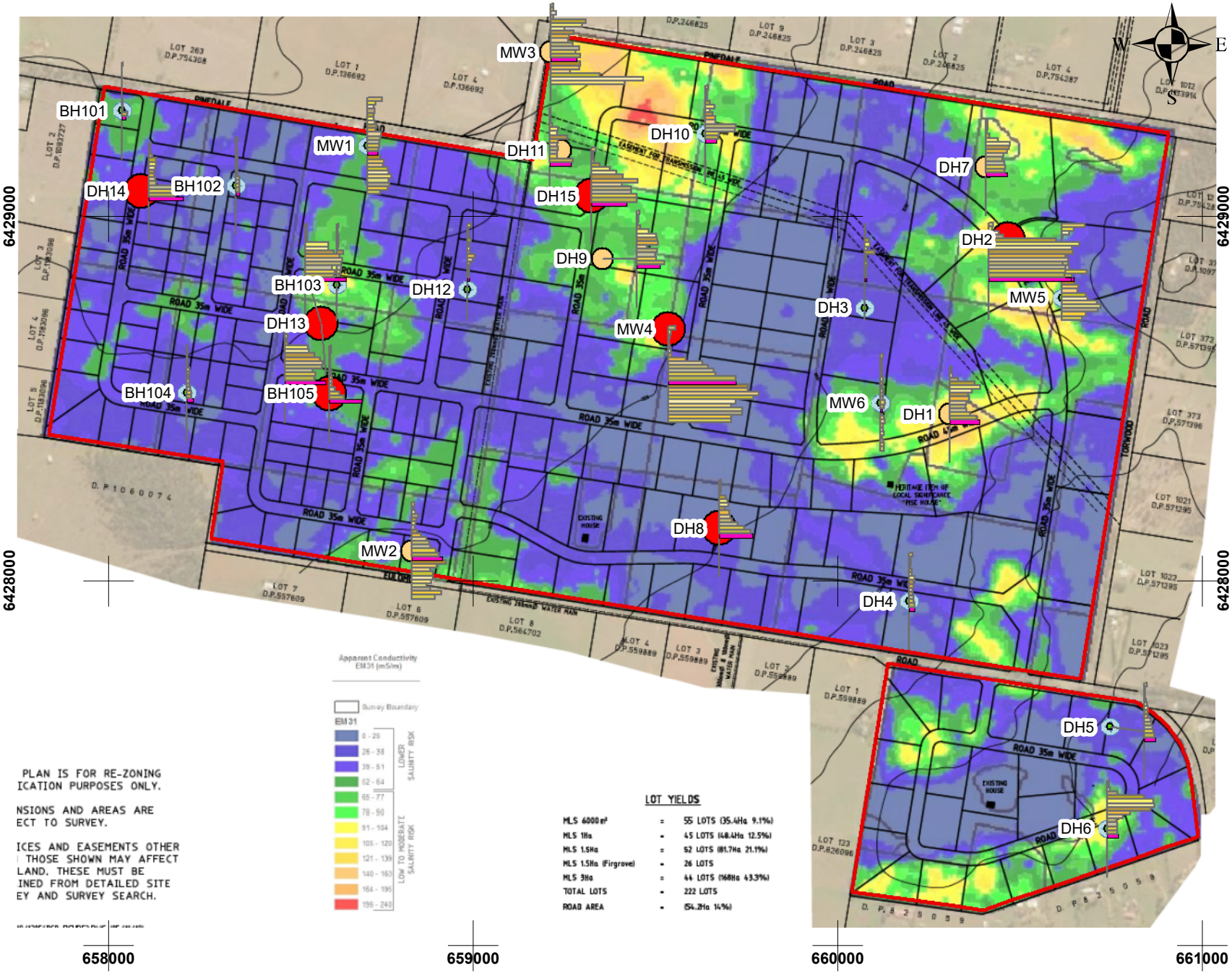
The area of low to moderate salinity risk in the Master Plan (Heath Consulting Engineers, 2019) has increased to approximately 25% of the total area. These areas are depicted as the green, yellow and orange areas in Map 2. Some of these areas are described as the contact zone between the Pilliga Sandstone and Purlewaugh Formation geology in the Salinity Management Strategy (Envirowest Consulting, 2018b) and Vegetation Management Plan (Soilwater, 2019), but not mapped in the suite of reports.

There is no salt balance in the 3 Envirowest Consulting reports that describe the salinity and groundwater investigations on the proposed Daisy Hill Estate (Envirowest Consulting, 2017a, 2017b and 2018a).

Daisy Hill

Dubbo

Measured Salinity and EM 31 Survey



PLAN IS FOR RE-ZONING
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THOSE SHOWN MAY AFFECT
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INED FROM DETAILED SITE
EY AND SURVEY SEARCH.

LOT YIELDS

MLS 6000m²	=	55 LOTS (35.4Ha 9.1%)
MLS 1Ha	=	45 LOTS (48.4Ha 12.5%)
MLS 1.5Ha	=	52 LOTS (81.7Ha 21.1%)
MLS 1.5Ha (Firgrove)	=	26 LOTS
MLS 3Ha	=	44 LOTS (168Ha 43.3%)
TOTAL LOTS	=	222 LOTS
ROAD AREA	=	(54.2Ha 14%)

ECe 6 m (dS/m)

- 0.2 - 2.0
- 2.1 - 4.0
- 4.1 - 10.9
- TestHole
- DaisyHillBound

0 250 500
Metres

Certification

Draft/Uncontrolled Document
Unless Signed & Dated

Job Code: GW37
Map Printed: 2019
Salinity [redacted]
Map of Lot Boundaries and EM31 S[redacted]

Contact: [redacted]
Phone : [redacted]
Datum: WGS 84
Projection: UTM

Map 2

COMMENTS ON THE SOILWATER REVIEW OF PROPOSED DAISY HILL ESTATE SALINITY AND GROUNDWATER INVESTIGATION.

Soilwater (2018) focussed on the vertical component of the Envirowest Consulting (2017b, 2018a) groundwater model. They did this by assessing the accuracy of deep drainage estimates from the 3 typical profiles used by Envirowest Consulting. Soilwater compared deep drainage estimates generated by Hydrus 1-D (Simunek *et al.,* 2008) with those generated by CLASS U3M-1D (Vaze *et al.,* 2004). Soilwater (2018) found that these 2 similar models predicted similar deep drainage rates when run with similar inputs.

Soilwater (2018) accept the Envirowest Consulting (2017b, 2018a) assumption that water will move laterally through subsurface layers of the proposed Daisy Hill Estate with little loss in head.

Soilwater (2018) interpret the tree water regime adopted by Envirowest Consulting (2017b, 2018a) as total transpiration of 0.5 mm/day. This interpretation would require no rainfall on the area where trees are planted, and free groundwater movement from other domains to the tree rootzone.

Profile graphs in Figures 1 to 11 of Soilwater (2018) indicate that the starting profile moisture contents of Hydrus simulations range from around 0.11 to 0.17 m^3/m^3. In contrast, the ending moisture contents of 5 of 6 layers are of the order of 0.3 m^3/m^3 or greater. This initial moisture content is not consistent with the current Daisy Hill Estate groundwater system that is producing discharge as tabulated in Envirowest Consulting (2017b, 2018a). As a result, it is inconsistent with Barnett *et al.*, (2012) who recommend that initial conditions should reflect steady state conditions at the start of the model run. Although this inconsistency will affect the magnitude of estimated deep drainage rate, it is unlikely to change the general conclusion that deep drainage will be of the order of a few mm/year.

COMMENTS ON THE EMM REVIEW OF PROPOSED DAISY HILL ESTATE SALINITY AND GROUNDWATER INVESTIGATION.

The review by EMM (2018) focuses primarily on the effect of modelled groundwater regime on groundwater levels within the proposed Daisy Hill Estate. This is based on EMM (2018) accepting the Envirowest Consulting (2018a) conclusion that *"the development will not result in a net increase in groundwater recharge to the water table".*

The EMM (2018) review concludes that *"it would seem likely that waterlogging of shallow soils will occur at times".* The EMM (2018) review also notes that the predicted *"outcome is heavily reliant on uptake of water by proposed vegetation in roadside reserves".*

EMM (2018) makes 4 recommendations based on their interpretation of the Envirowest Consulting (2017a, 2017b and 2018a) and Soilwater (2018) reports. These can be paraphrased:

1. Ensure that selected vegetation can take up excess soil water as required.
2. Apply appropriate water and landscape engineering to cope with intermittent waterlogging.
3. Stage the proposed development with sufficient time between stages to allow reconfiguration of subsequent block if problems are identified.
4. Monitor groundwater levels on and within 1 km of the site and use resulting water levels to guide mitigation measures.

EMM (2018) do not comment on the time lag between stages, but the Soilwater (2018) estimate that it took more than 14 years for wetting front to reach 6 m implies that it would be appropriate to wait a decade or more between stages.

SSM REVIEW OF DAISY HILL GROUNDWATER AND SALINITY MODELLING.

Groundwater

The Soilwater (2018) and EMM (2018) reviews indicate that the conceptual model of a number of soil domains represented by 1-dimensional water flow models and linked by lateral flow (Figure 1) is an appropriate way to characterise groundwater in the proposed Daisy Hill Estate. We agree that this conceptual model is an appropriate one, but not the way it has been applied.

This is because we have reservations about the magnitude of the lateral flow between these domains. These reservations will be outlined separately for the shallow (<70 cm) and deep (>1 m) layers.

For the shallow soil layer, Envirowest Consulting (2017a, 2017b, 2018a) relies on the guidelines of Rassam and Littleboy (2003) to justify the contribution of lateral flow in the surface 70 cm to groundwater flow from the domains towards the trees. Rassam and Littleboy (2003) developed an empirical equation that estimates lateral groundwater hydraulic conductivity as a proportion of vertical hydraulic conductivity. Inputs to the Rassam and Littleboy (2003) equation are the surface slope in degrees, and the ratio between soil saturated hydraulic conductivity above and below an interface. For the range of surface slope across the proposed Daisy Hill Estate (Map 1) the ratio is of the order of 11%. As a result, data from Table 3 indicates that lateral flow rates would be expected to be of the order of 0.2 to 2 mm/hr for the clay loam layers in Figures 3 to 5, Envirowest Consulting (2018a). Similarly, lateral flow rates in sandy clay would be expected to be of the order of 0.1 to 0.5 mm/hr. These values indicate that the surface 20 to 50 cm of clay loam soil in Figures 3 to 5, Envirowest Consulting (2018a) has the capacity to transmit a measurable quantity of water laterally, but the underlying sandy clay does not.

The calculations below indicate the magnitude of this flow. This is done by calculating the volume of water transferred by lateral flow from a 1 m wide strip of the soil depicted in Figure 4 (Envirowest, 2018a) based on the following assumptions:

- The lot is rectangular, with the length being twice the width or 172 m.
- The cross-sectional area transmitting water is 0.5 m deep by 1 m wide.
- Discharge rate is 2 mm/hr.

From these data, the volume discharged into the vegetated area is:

- 1 m wide by 0.5 m deep by 2 mm/hr = 0.001 m^3/hr or 1 L/hr.

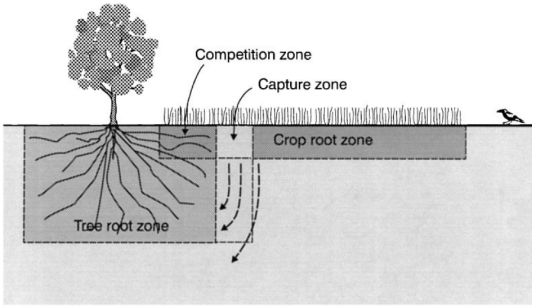
For the area of 172 m by 1 m being drained, the volume being drained is equivalent to an average depth of:

- Volume of 0.001 m^3/hr divided by area of 172 m^2 = 6 μm/hour.

This indicates that it would take almost 1 week to drain 1 mm of water from the 1.5 ha lot in Figure 4, Envirowest Consulting (2018a) to the vegetation strip. Output from the CLASS3 UM-1D model for pasture in the profile of Figure 4, Envirowest Consulting (2018a) indicates that this layer would be expected to be saturated for less than 3% of days, so the lateral flow may account for around 1.5 mm/year in the soil with the thickest clay loam layer on the proposed Daisy Hill Estate.

For soil deeper than the pasture rootzone, Envirowest Consulting (2017a, 2017b and 2018a) propose that water will flow along gravel and sand lenses intercepted in some test holes. This mode has been evaluated by Stirzaker *et al.,* (2003) who examined 2 scenarios relevant to the proposed Daisy Hill Estate. The first scenario is when the water table is below the depth of tree root system. In this case, Stirzaker *et a*l., (2003) found that trees access little water by lateral flow because the capture zone (Figure 2) is dry, consequently transmits little water.

a) between rainfall events



b) soon after prolonged rainfall

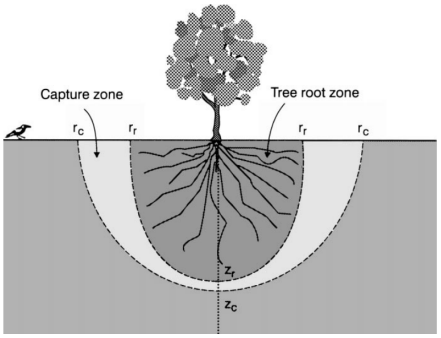


Figure 2. Schematic diagram of water uptake by trees when groundwater level is below tree rootzone (from Stirzaker *et al.*, 2003).

The second case is where the water table is above the tree rootzone and trees can lower the water table by extracting water from greater depth than the crops or shallow rooted pasture (Figure 3). Stirzaker *et al.,* (2003) predict that the water table between the tree lines will be substantially shallower than the water level near the tree rootzone (Figure 3) and propose that this difference in water height provides the force to move water towards the tree rootzone. Stirzaker *et al.,* (2003) provide mathematical estimates of the maximum half distance (S in Figure 3) as a function of deep drainage rate, soil saturated hydraulic conductivity and tree rootzone depth.

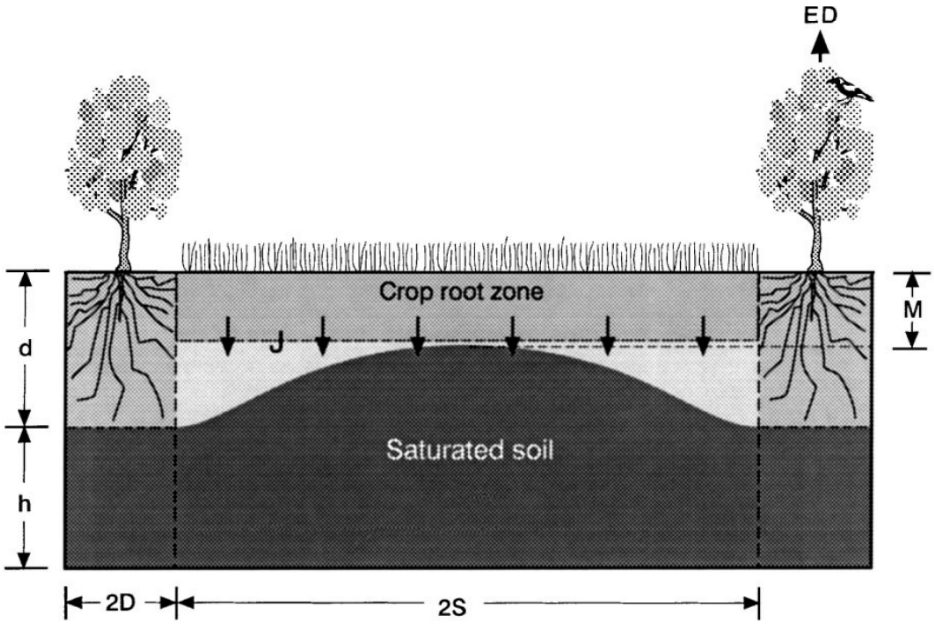


Figure 3. Schematic diagram showing the shape of the saturated zone between lines of trees on flat land when water table is above bottom of tree rootzone (from Stirzaker *et al.*, 2003). Symbols are; **S** is maximum half space to keep water table at desired level, **D** is half width of tree belt, **E** is annual use of water from water table, **M** is water table depth at mid point, **d** is depth to water table below trees, **h** is height of water table above impermeable layer, **J** is deep drainage below crop rootzone.

These estimates indicate that the proposed tree plantings could lower the water table sufficiently to minimise the area of shallow groundwater within the proposed Daisy Hill Estate. However, there will be some deep drainage beneath the land as a shallow water table is required to provide the force to move water towards the trees. Furthermore Benyon *et al.,* (2006) in a review of data from 21 Australian sites found that trees could lower groundwater levels to around 6 m. As a result, trees will not take up significant groundwater in areas represented by Figures 3 to 5 and Envirowest Consulting (2018a) until groundwater levels rise from the current 12 and 14 m to shallower than 6 m.

CONCLUSIONS

- The conceptual groundwater flow model of Envirowest Consulting (2017a, 2017b and 2018a) contains vertical and horizontal components. It appears that they have used appropriate models for the vertical component, but they have not quantified the horizontal component, despite relying on this to claim that the proposed development will extract 16,632 m^3 of groundwater annually.
- Estimates by SSM indicate that the surface 0.7 m of soil in the proposed Daisy Hill Estate has the capacity to drain 1 mm/week to the vegetation zones from the 1.5 ha Lots. This flow only occurs while the soil is saturated, which was estimated to be around 3% of days.
- Australian research indicates that trees are unlikely to take up significant volumes of groundwater until the water table is shallower than 6 m. This will require a substantial rise in groundwater levels over parts of the proposed Daisy Hill Estate. In addition, groundwater levels between the trees will need to be shallower than 6 m to push water towards the tree roots. Recharge of underlying layers will also occur at the same time as this lateral flow. This recharge may threaten downslope areas such as Troy Gully.
- As a result, it is unlikely that the proposed layout of strips of trees around the edge of lots will reduce deep drainage from the proposed Daisy Hill Estate to zero.
- Data collected and interpreted by Envirowest Consulting (2017a) indicates that the proposed vegetation could keep water table deeper than the pasture rootzone.

Salinity

Salinity is addressed by measurements of soil and groundwater salinity in Envirowest Consulting (2017a), but given little attention in the groundwater simulations (Envirowest Consulting 2017b, 2018a) or reviews of groundwater and salinity modelling by Soilwater (2017) or EMM (2018). Perhaps this is because Figure 11 of Envirowest Consulting (2017a) indicates there is little salinity hazard in 97% if the area of the proposed Daisy Hill Estate. In contrast, elevated salinity near the contact zone between the Pilliga Sandstone and Purlewaugh Formation was used when planning the Salinity Management Strategy (Envirowest Consulting (2018b) and preparing the Vegetation Management Plan (Soilwater, 2019)

We reassessed the extent of salinity hazard across the proposed Daisy Hill Estate by estimating the EM31 apparent electrical conductivity (ECa) above which soil electrical conductivity of saturated extract (ECe) would be expected to be greater than 2 and 4 dS/m for 15 soil layers from the surface to 6 m. Soil salinity (ECe) in this scatter plot was generated from soil data in Appendix 5 of Envirowest Consulting (2017a) and ECa was estimated from the EM31 ECa surface in Map 2. The critical values were selected to represent slightly saline (ECe of 2 to 4 dS/m, Hazelton and Murphy, 2007) and moderately saline (4 to 8 dS/m) soil.

The resulting scatter plot indicated that salinity was uncommon in the 0 to 10, 10 to 20 and 20 to 30 cm layers (Figure 4). Slightly saline soil in the 40 to 50 cm layer was expected in areas where EM 31 ECa was greater than 170 mS/m. In contrast, soil salinity was expected to be greater than 4 dS/m for all 11 layers deeper than 50 cm where EM 31 ECa was greater than about 105 mS/m. There was a trend that the critical EM 31 ECa for ECe of 2 dS/m decreased from 90 mS/m in the 50 to 100 cm layer to less than 50 mS/m for the 550 to 600 cm layer.

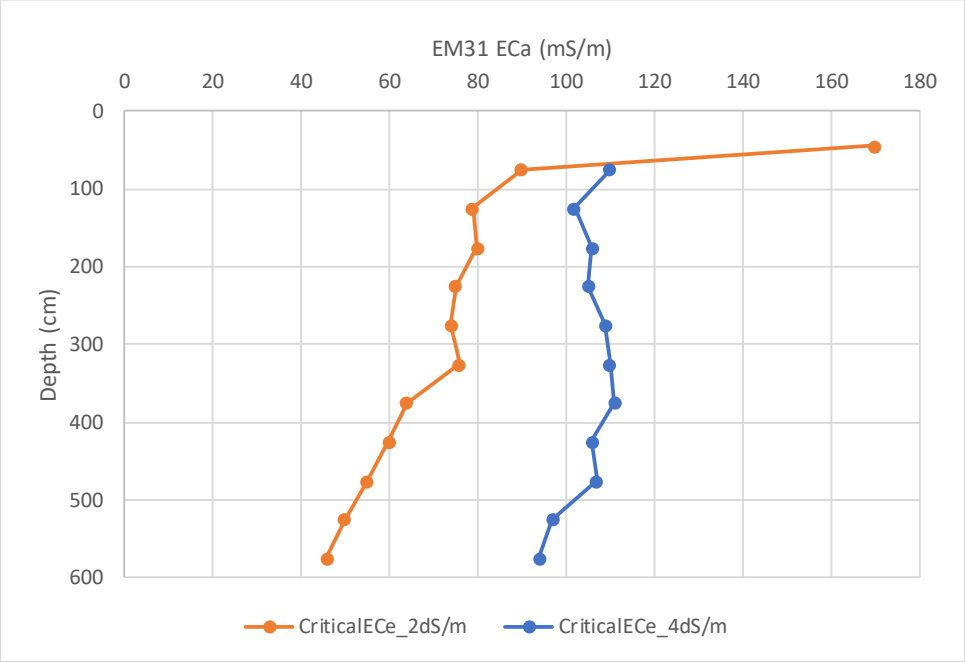


Figure 4. Critical EM31 apparent electrical conductivity (ECa) above which soil salinity measured as electrical conductivity of saturated extract (ECe) was greater than 2 and 4 dS/m across proposed Daisy Hill Estate.

This indicates that salinity would be expected to be low enough to not restrict root growth to 6 m where EM31 ECa is less than about 50 mS/m (blue areas in Map 2). Similarly, salinity would be expected to restrict root growth of salt sensitive plants in the 50 to 550 cm layers of areas with EM 31 ECa greater than 100 mS/m (yellow, orange and red areas in Map 2).

The salinity profiles indicate that salinity should not restrict growth of shallow rooted plants provided groundwater is moving downwards. Groundwater monitoring indicated that water levels were shallow enough to

cause capillary rise in MW3, but not the remaining 5 sites monitored (Envirowest Consulting, 2017a).

The salinity measurements indicate that trees grown in the 25% of the proposed Daisy Hill Estate will require some degree salt tolerance if they are to function effectively in lowering groundwater levels.

The salinity profiles of DH3, DH4, DH5, DH12, BH101, BH102, BH104, MW1 and MW6 have low ECe from the surface to 6 m (Map 2), indicating that there has been recharge beyond this depth (Figure 5). It is likely that this deep drainage will continue if groundwater levels in these areas rise to shallower than 6 m as would be required to push groundwater towards trees as shown in Figure 3.

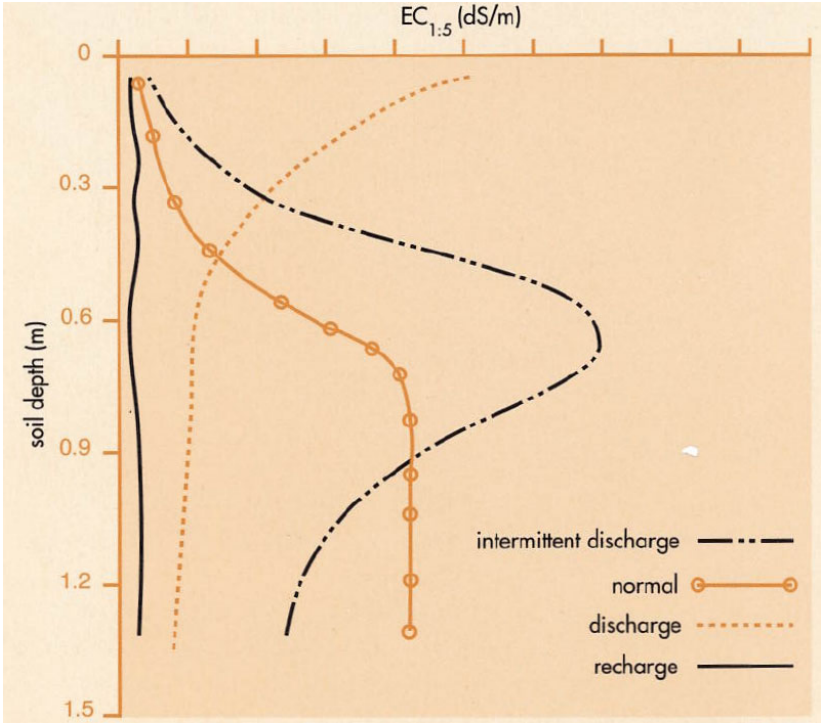


Figure 5. Typical soil salinity profile shapes for 4 different drainage patterns (from DNR, 1997).

CONCLUSIONS

- 26 soil salinity profiles from the proposed Daisy Hill Estate indicated that there is little salinity in the surface 50 cm of soil at the sites sampled.
- Correlation between the EM 31 survey and the measured salinity profiles indicated that salinity will restrict the potential root growth of salt sensitive trees in around 25% of the proposed Daisy Hill Estate.
- These patterns indicate that there is little threat of secondary salinity unless groundwater is moving upward.
- The shape of soil salinity profiles at one third of sites sampled indicates that they are recharge sites. This is likely to continue if

groundwater levels rise, as is required to push water towards the vegetation zones.

- Groundwater levels are shallow enough in 1 of 6 sites monitored that capillary rise would be expected to bring some salt to the surface.
- The groundwater and salinity study does not include a salt balance or salinity model.

COMMENTS ON SALINITY MANAGEMENT STRATEGY

The Envirowest (2018b) salinity management strategy appears to have been written to manage shallow groundwater and salinity within the proposed Daisy Hill Estate. As such, it does not address deep drainage that is likely to occur from low salinity areas of the proposed development or the off-site impact of this deep drainage.

The Envirowest (2018b) salinity management strategy details actions to follow recommendations of the Dubbo Landscape Interpretation Project (Nicholson *et al.,* 2010). The actions recommended by Nicholson *et al.,* (2010) were written specifically for management areas (MA) with defined landscape position within hydrological landscapes (HGL).

This approach appears to be a reasonable one, but use of Nicholson *et al.,* (2010) in this way should be acknowledged in the strategy document. The Salinity Management Strategy would also be clearer if the acronyms that were copied verbatim from Nicholson *et al.,* (2010) were explained.

The strategy document layout consists of an introduction, an outline of (previous) assessments, and a list of management actions. These actions rely on findings from the assessments and appear to be similar to Tables 14 to 18 in Envirowest Consulting (2017a).

Management Actions in the salinity strategy apply to the structure of the proposed Daisy Hill Estate in terms of Lot layout, width of road reserves, location of vegetation strips, complemented by water management within individual Lots. This is a sound approach to salinity management within the proposed Daisy Hill Estate.

However, an assessment of the likely effectiveness of the approach relies on accurate communication of how well the proposed management actions are related to the landscape properties. Given this relationship, it seems important that the location of the contact zone between Pilliga Sandstone and Purlewaugh Formation be clearly marked. Piezometers installed in Pilliga Sandstone in this contact zone should be identified.

Similarly, it would be useful to include in the salinity management strategy a map showing the locations of all areas planned to be planted to perennial vegetation overlaid on the areas with saline subsoil and shallow groundwater.

The EM31 survey in Map 2 of this report shows patches of moderately saline soil along the southern edge of the proposed Daisy Hill Estate. Measured salinity between 50 and 250 cm in test hole DH6 averaged 5.7 dS/m (Envirowest Consulting, 2017a) which is in the moderately saline range of

Hazelton and Murphy (2007). This area warrants additional actions to avoid salinity.

A further point in relation to clarity is that the boundaries between Management Areas 1 and 2 in both the Richmond Estate and Firgrove hydrological units are not shown in Attachment 1. This boundary is relevant because different actions are recommended for these management areas, and confusion can occur if there is uncertainty about the actions that apply to individual Lots.

In summary, it is likely that actions recommended in the salinity management strategy will reduce salinity within the proposed Daisy Hill Estate compared to development without these actions. However, it is also likely that there will be groundwater flow from the proposed Daisy Hill Estate into downslope areas such as Troy Gully.

The appropriateness of actions in the Salinity Management Strategy cannot be determined from viewing this document alone. A clear depiction of the zone of contact between the Pilliga Sandstone and Purlewaugh Formation is an important omission from the suite of documents that support the salinity management strategy.

It also appears that the EM survey has identified some areas of elevated salinity near the south eastern corner of the proposed Daisy Hill Estate. The areas in the Richmond Estate hydrological landscape have been addressed by increasing lot size, but the areas in the Firgrove hydrological landscape have not.

The Salinity Management Strategy does not mention staging of the proposed Daisy Hill Estate that was recommended by EMM (2018), nor does it mention the groundwater monitoring that EMM (2018) recommend. This should be remedied.

COMMENTS ON VEGETATION MANAGEMENT PLAN

Perennial vegetation in the proposed Daisy Hill Estate will play an important role in taking up excess moisture from other land use types (EMM, 2018). As such, this vegetation will play a crucial role in the success of the Envirowest Consulting (2018b) salinity management strategy in addressing shallow groundwater and salinity within the proposed Daisy Hill Estate.

The Vegetation Management Plan for the Daisy Hill Subdivision (Soilwater, 2019) contains:

- Conceptual cross sections of the vegetated corridors,
- The areas to be planted to perennial vegetation,
- The location of these areas in relation to apparent electrical conductivity (ECa) from the EM31 survey,
- A list of species,
- Guidelines for plant arrangement and density and for establishment,
- Comments on staging.

This report layout is logical and the information used is consistent from one section to the next. However, there appear to be some shortcomings.

The EM31 survey indicates that there is a range in existing soil salinity across the proposed Daisy Hill Estate. The vegetation plan could be improved if the list of suitable trees reflected suitability of the trees to grow in soil with low salinity, and soil that is slightly saline to moderately saline. It is also logical that trees and shrubs with greater tolerance to salinity are planted in the areas of the contact zone between the Pilliga Sandstone and Purlewaugh Formation. It would be helpful if Envirowest Consulting (2017a, 2017b, 2018a and 2018b) mapped this zone in their suite of reports.

The second is that there is some conflict between the predicted surface soil water regime between the groundwater peer review of Soilwater (2018) and the Vegetation Management Plan of Soilwater (2019). Soilwater (2018) recommends that the proposed vegetation contain "*a species mix of both shallow and deep rooting species with good drought and waterlogging tolerance".* Soilwater (2019) does not mention root architecture and states that vegetation in road reserves "will not experience waterlogging". Perhaps the species selection could be fine-tuned to take these differences into account.

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LIMITATIONS

The investigations described in this report identified actual conditions only at those locations where sampling occurred. This data has been interpreted and an opinion given regarding the overall physical and chemical conditions at the site.

Although the information in this report has been used to interpret conditions at the site, actual conditions may vary from those inferred, especially between sampling locations. Consequently, this report should be read with the understanding that it is a professional interpretation of conditions at the site based on a set of data. Although the data were considered representative of the site, they cannot fully define the conditions across the site.

Kim Holt

From: Mellissa Felipe
Sent: Monday, 26 August 2019 3:02 PM
To: Kim Holt
Subject: FW: Panel Reference Number 2016WES006 - Dubbo - PP _ 2016 _ DUBBO_005_00 - Daisy Hill, Dubbo - to reduce the minimum lot size of zone R5 - Large Lot Residential land to create 222 lots at land known as Daisy Hill, Dubbo.

Mellissa Felipe
Project Officer
Planning Panels Secretariat
320 Pitt Street, Sydney| PO Box 39 Sydney NSW 2001
e: mellissa.felipe@planning.nsw.gov.au|D: 02 9585 6884| www.planningpanels.nsw.gov.au
G: enquiry@planningpanels.nsw.gov.au |P: 02 8217 2060|

I wish to acknowledge the Traditional Custodians of the land and pay respect to all Elders past, present and future.

*Class 1 Appeals - Notification to the Planning Panel Secretariat must be made no more than seven days after Council receives notice of an appeal in relation to a Planning Panel matter.

From: [redacted]
Sent: Thursday, 15 August 2019 3:49 PM
To: Plan Comment Mailbox <PlanComment@planningpanels.nsw.gov.au>
Subject: Panel Reference Number 2016WES006 - Dubbo - PP _ 2016 _ DUBBO_005_00 - Daisy Hill, Dubbo - to reduce the minimum lot size of zone R5 - Large Lot Residential land to create 222 lots at land known as Daisy Hill, Dubbo.

I strongly object to the planning proposal on the following basis:

1) Loss of Lifestyle, peace quiet and country ambience.
   We purchased Lot 2 DP 559889 Eulomogo Road (10.12ha - 25 acres) in 1991 so that we could enjoy a country life style while being relatively close to major amenities. We also wished to pursue a number of Hobby Farm activities without the concern of "NIMBY" neighbours .
   We were comforted that this would remain the case due to the Council Zoning which required minimum block size of 8 hectares in the surrounding lots. However our life style will no doubt be effected with the arrival of in excess of 220, neighbours many on small residential blocks.
2) Devaluation of our property.
   We are fearful that the resale value of our property will be substantially diminished should the Zoning change proceed for the following reasons:
   a) A significant over supply of Rural residential blocks in the immediate Area with both Firgrove and Richmond estates still having unsold blocks.
   b) Who would want to buy a Hobby Farm of 25 acres, surrounded on two sides by small residential blocks.
3) Lack of Infrastructure for the proposed development.
   a) Traffic Control : The proposed residential development will have the ability to home in excess of 500 families meaning up to 1000 extra vehicles. The plan on exhibition funnels all traffic into Eulomogo Road (3 exits) and Pinedale Road (1 exit). Both roads are basically goat tracks of barely 2 lanes.

   Much of this extra traffic from Eulomogo Road will access the Mitchell Highway across the Railway line due to it being the shortest route to the CBD and two major schools in Sheraton Road and the child

minding center, fast food outlets and a recently opened Brewery Tavern at blue ridge estate.
The intersection of Eulomogo Road and the Mitchell Highway is a death trap with a major catastrophe waiting to happen . We have traffic travelling both ways on the highway with the speed limit at a ridiculous 110kms per hour and traffic from Eulomogo Road turning into this speeding traffic. Serious accidents are already occurring.

I see no input from the RTA in regard to traffic control.

b) Water and Sewage: The availability of water to service the dwellings on the proposed subdivision is of major concern. I am assuming that the water is to be piped from the water main coming from the reservoir on top of the hill to the South East of Eulomogo Road. Our property is the first serviced from this reservoir and the water pressure is so poor the we cannot shower in the evening and it takes forever to fill a washing machine to do a load of washing. This is exacerbated in hot weather when the Council further reduces the pressure to save water. This is despite the Council fitting 25m water meters to our properties when water was initially provided to increase pressure. For this larger meter I am charged a water access fee of $424.83 per year this is before paying for water usage. The access fee is only slightly less than my water usage charge for a full year.
I note that that all the proposed blocks will be pit type sewage systems. I do not accept the consultants opinion in documents attached supporting the Zoning proposal, that this will not have an effect on Ground water running into Eulomogo Creek and Troy Gully. As well as the numerous bores serviced by the two underground water systems.

I have no political or financial interests in this project but strongly believe the minimum block size should remain as is currently zoned.
I do not want my private details provided to third parties.

Regards

[redacted]

Mellissa Felipe

From: [redacted]
Sent: Sunday, 21 July 2019 3:57 PM
To: Plan Comment Mailbox
Subject: Panel reference Number 2016WES006-Dubbo-PP_2016_Dubbo_005_00-Daisy Hill
Attachments: IMG_2181.JPG; IMG_2182.JPG; IMG_2184.JPG; IMG_2184_LI.jpg

These are the **objections** my wife and I put forward **against** the development of Daisy Hill, Dubbo.

1. One reason people purchased in Firgrove is the rural lifestyle. That lifestyle will be greatly affected by this development.

2. Our property, Lot 21, 3R Toorale RD., backs up to those blocks on the south side of Eulumogo RD (the section where George Rice's house stands) and **drainage of water runoff will be a huge issue!!! Water runoff MUST be addressed if this development is approved. (Photos Attached of Fence Line and present drainage between 3R Toorale RD and proposed Daisy Hill Development)**

3. Privacy of the rural lifestyle will be lost especially for those of us whose property's back onto Daisy Hill if this development is approved.

4. Eulumogo Road will be overly congested with so many blocks accessing it. One cannot imagine what morning and evening traffic will be like with this development.

5. Torwood Road is at the top of a hill and is a dangerous location now so what will it be like if this development is approved?

6. The Mitchell Highway access along with the railroad line crossing over Eulumogo RD so near the Mitchell will be a traffic hazard just waiting for an accident.

7. Council doesn't properly maintain Eulumogo RD now so what assurance is there that they will properly maintain it during and after this development is finished?

8. Wildlife will be greatly affected by this development.

9. Dust and traffic congestion will certainly be amplified during development if approved.

10. **IF Daisy Hill is approved** there should be a privacy screen required consisting of trees or hedges on the Daisy Hill fence line adjoining the Firgrove properties. These trees or hedges should be the developer's responsibility for maintenance until they are mature.

Sincerely,

[redacted]

Mellissa Felipe

From: [redacted]
Sent: Thursday, 8 August 2019 5:50 PM
To: Plan Comment Mailbox
Cc: [redacted]
Subject: Daisy hill - Dubbo

Panel Reference Number 2016 WES006 – Dubbo – PP _2016_Dubbo_ 005_00 – Daisy Hill, Dubbo to reduce the minimum lot size of zone R5 – Large Lot Residential land to create 222 lots at land known as Daisy Hill, Dubbo.

To whom it concerns

Against proposal to reduce block sizes.

As a land holder further along Eulomogo Road, I am concerned that the increase in the number of blocks (approximately 222 instead of the 70 previously approved) raises serious issues on a number of fronts.

Traffic
This approval will greatly increase the amount of traffic both on Eulomogo road and at the intersection on to the Mitchell highway. With the majority of Households having a minimum 2 vehicles travelling at least once a day in and out of town, this will see a huge increase of over 440 vehicle movements on the current road and those accessing the highway.
1) The proposed subdivision draft displays an access onto Eulomogo road just below Torwood Rd is very close to the top of the crest of a hill and will have limited sight when accessing Eulomogo Road creating a highly possible black spot on this road. A possible solution is to have only one main intersection on to Eulomogo Road located half way along estate, ie located well away from the top of the hill and in a location that there is clear line of sight both ways.
2) We also believe there will need to be a substantial upgrade to the Eulomogo /Mitchell highway intersection especially for entering traffic onto the highway at peak times. There have already been several accidents at this location with no doubt many more near misses.
3) Is the current Eulomogo Rd design sufficient to safely handle the increased volume of traffic? In particular the lack of verges on this road make it largely unable for a vehicle to pull safely and completely off the road. Currently a broken down vehicle still sits partially on the road in many places due to lack of places to pull off safely. With increased traffic this even a greater concern.

Services
Water
We are concerned about the amount of available water for the scheme as we already have restricted water supply in the Firgrove estate and flat out running a single sprinkler at peak times. This will be a major problem if additional water supply is not addressed considering the substantial increase in the number of blocks.
We would also like to know that the additional run off etc will be addressed both in terms of s salinity and directions of flow to the Macquarie river.
Internet
Our service is often very slow now - will this decrease with the amount of users?? This is not the developers issue but does need to be addressed.

We have offered these concerns confidentially to you as we believe they are quite justified and need to be addressed. We trust that you will accept them in an appropriate fashion.

Yours
[redacted]

[redacted]

Western Regional Planning Panel (WRPP)

Submission from

Dubbo Regional Council

Regarding

2016WES006 – Dubbo - PP_2016_DUBBO_005_00 “Daisy Hill”

Date – 16 August, 2019

BACKGROUND

The Daisy Hill Planning Proposal was initially lodged with Dubbo City Council on 25 October 2013. Since that time the proponent and Council have attempted to resolve a number of outstanding issues in relation to the proposal. The principal outstanding issue for Council remains the significant issue of potential Salinity impacts, particularly downstream in the Troy Gully and Eastridge residential environments.

In 2015 a report to Council noted "the report presents an unacceptable groundwater and salinity impact to both future residential development on the subject land and further development downstream in the Troy Creek catchment area."

This remains the position of Dubbo Regional Council.

In response, the Western Regional Planning Panel (WRPP) endorsed an independent review of the proponents' plans and Salinity Management Strategy prepared by EnviroWest, this was undertaken by EMM Consultants.

The proponent also commissioned a review of the Salinity Strategy prepared by EnviroWest. This report was completed by SoilWater Consultants and concurred with the EnviroWest study.

On 19 March 2019 the WRPP published their latest determination in relation to the subject Planning Proposal. Dot point 2 of the Panel Decision is as follows:

- *Delete Condition 2 and replace with:*

  Prior to community consultation, a Salinity Management Strategy is to be prepared for the site in consultation with Dubbo Regional Council and the Department of Primary Industries. The Strategy shall include agreed;

  - *Success criteria*
  - *Range of scenarios to be modelled*
  - *Modelling methodology*
  - *Format for the presentation of results*

  The Strategy shall address salinity management on the site as well as potential downstream impacts on the Troy Gully catchment and demonstrate that the proposed type, layout and density of development will not have a significant impact on downstream salinity. The strategy is to be submitted to the Panel to form part of the community consultation package.

It appears from a review of the information placed on public display that a draft Salinity Management Strategy has not been prepared, despite the provision of such Strategy being clearly required by condition 2 of the WRPP determination.

A draft salinity management strategy was prepared in 2015. This Strategy was not considered adequate or accurate. A subsequent redraft dated November 2018 was

completed without Council involvement, and remains inadequate and incomplete. It appears that the Proponent and the WRPP is relying on information addressing the strategic impacts and management of salinity on the subject land across a number of separate documents and not a stand-alone Strategy prepared in accordance with Condition 2 of the determination of the WRPP.

Despite not being prepared in consultation with Council, not including any agreement on the above required dot points and remaining inadequate and incomplete, it appears that the Panel determined on 9 June 2019 that the salinity management strategy was sufficient and community consultation could occur.

Council was provided 30 days and one (1) complete set of documents for both internal review and public display.

As a result of the short time frame and sheer scale of salinity related documentation Council engaged Sustainable Soil Management (SSM) to review all relevant information pertaining to salinity management at the proposed Daisy Hill development.

SSM examined the following documents in order to prepare their report;

- EnviroWest Consulting 10/8/2017 "Updated groundwater and salinity study: Daisy Hill Estate"
- EnviroWest Consulting 12/12/2017 "Hydraulic model simulation for Daisy Hill"
- SoilWater Consultants 16/4/2018 "Daisy Hill groundwater an salinity study peer review"
- EnviroWest Consulting 18/4/2018 "Additional groundwater information Daisy Hill"
- EMM 14/6/2018 "Independent review of Daisy Hill groundwater and salinity modelling"
- EnviroWest Consulting 1/11/2028 Salinity management strategy Daisy Hill residential estate"
- SoilWater Consultants 14/2/2019 "Vegetation plan (VMP) for the Daisy Hill subdivision"

The SSM Report forms the bulk of the following submission and is provided attached here in **Appendix 1**.

SUBMISSION

1. SALINITY

The attached SSM document is a succinct summary of the afore-mentioned seven (7 documents and reaches the following principle conclusions;

- Contrasting EnviroWest and other documents portray the current salinity impacted areas at Daisy Hill as between 3% and 25% of the land area. SSM found the 25% figure more likely.
- This 25% of the site has low to moderate saline soils, groundwater levels of between 1.4m and 5.6m and highly saline groundwater. The Dubbo Regional Council (DRC) Salinity Hazard tables (below, drawn from Impax, 2013) identify Standing Water Level (SWL) and Electrical Conductivity (salinity) classes of groundwater, combining those classifications to form a Salinity Hazard. These tables clearly demonstrate that Salinity Hazard over the identified 25% of Daisy Hill is between Extreme and Medium Concern.

SWL – Salinity Risk		**EC (dS/m) – Salinity Class**	
0 – 2m	High Risk	>15 dS/m	Extreme Salinity
2.01 – 5m	Moderate Risk	6.01-15 dS/m	High Salinity
5.01 – 10m	Low Risk	2.01-6 dS/m	Moderate Salinity
>10m	Minimal Risk	0-2 dS/m	Low Salinity

SWL – Salinity Risk	EC (dS/m) Salinity Class	Salinity Hazard
High	Extreme	Extreme Concern
High	High	
Moderate	Extreme	
High	Moderate	High Concern
Moderate	High	
Low	Extreme	
High	Low	Medium Concern
Moderate	Moderate	
Low	High	
Minimal	Extreme	
Minimal	High	
Moderate	Low	Least Concern
Low	Moderate	
Low	Low	
Minimal	Moderate	
Minimal	Low	

- The Salinity Management Strategy (SMS) and Vegetation Management Plan (VMP) have the potential to produce localised improvements and mitigations of salinity on the proposed estate. These improvements will be restricted to the Daisy Hill Estate and are focused on improving intermittent shallow groundwater and waterlogging.
- The SMS and VMP have potential to positively impact the planting areas but will not address shallow groundwater issues on the proposed residential lots.
- The SMS and VMP will not impact groundwater deeper than 6m (which will move laterally downslope towards Troy Gully and Eastridge) and will not intercept shallower groundwater from laterally moving to the west (again, towards Troy Gully and Eastridge).
- The Independent Review undertaken by Consultants EMM (Department of Planning and Environment) recommended that the proposed development be staged in order to judge the success of the salinity management strategy. Given that models show the time required to reach a steady state at 16 years SSM have proposed that the period between stages be no less than 10 years to allow adequate monitoring and assessment of any impacts from each successive stage.
- It is recommended that each stage comprise no more than 10% of the proposed total lot yield.

SPECIFIC ANALYSIS

- The SSM review of the Daisy Hill Groundwater Model used by EnviroWest found;
    - Groundwater inflows comprise only rainfall, no water balancing of irrigation is offered.
    - Effluent input to the system is not modelled, despite the estate being designed without sewer infrastructure. This will be a significant unaccounted input.
    - The impact of reticulated water on irrigation levels was not calculated or modelled.
    - The area of the estate reported in EnviroWest documents varied from 430 to 380ha.
    - The EnviroWest assumptions for saturated hydraulic conductivity (Ksat), which will determine in part the speed of lateral movement through the soil, are significantly higher than both the accepted standard (Vase et al) and SoilWater in their review of EnviroWests' work. EnviroWest have calculated unrealistically high lateral transfer rates thereby impacting the accuracy of their models negatively.
    - Furthermore EnviroWest support their rapid lateral movement model by citing the presence of "thin gravel and sand bands common in the profile". Such soil structure was found in only 6 of the 28 soil logs reported, approximately 21% of the site rather than the entire site as modelled by EnviroWest.

    - EnviroWest stated current recharge of 5,111 m3 differs from the sum of the recharge zones currently of 19,087 m3. EnviroWest modelling based on this error implies there will be a net post-development annual recharge at this site of -16,632 m3 without indicating the source of water which will satisfy the apparent shortfall.
- The SSM review of the Daisy Hill Salinity Model found;
    - There is a substantial discrepancy between the 3% of land area mapped as at risk in 2017 and used as the basis of modelling and the 25% identified in the Heath Consulting engineers Master Plan in 2019.
    - There is no salt balance in the model.
- SMM comments on the SoilWater review
    - SoilWater utilised accepted hydraulic conductivity standards (unlike EnviroWest) and achieved transfer rates of 1.2-2 compared with EnvironWests' findings of 2.5-5. This discrepancy was not discussed or highlighted by SoilWater but impacts the speed and efficiency of lateral groundwater movement.
    - SoilWaters' interpretation of EnviroWest data assumes no rainfall on the vegetated areas and unimpeded lateral groundwater movement at depth in order to achieve its results. These results are considered to be both improbable and disproven.
- The SSM review of the EMM Review found:
    - The EMM review is primarily focused on the groundwater and salinity impacts of the Estate.
    - DRC remains primarily concerned with the off-site, downstream impacts, i.e. the known salinity hot-spot of Troy Gully and Eastridge.
    - EMM conclude that waterlogging of soils will occur on the site at times, contrary to EnviroWests assertions.
    - EMM note that the predicted "*outcome is heavily reliant on the uptake of water by the proposed vegetation in roadside reserves.*"
    - EMM made four recommendations;
        - "*Ensure that the selected vegetation can take up excess soil water as required*". This seems unlikely given the design and plant selection offered in the Vegetation Management Plan (see below).
        - "*Apply appropriate water and landscape engineering to cope with intermittent waterlogging*". This element is not referenced in the SMS review.
        - "*Stage the proposed development with sufficient time between stages to allow reconfiguration of subsequent blocks if problems are identified".* No time period is suggested by EMM, SSM have suggested 10 years between stages, based on the SoilWater findings. Additionally based on the proposed stage 1 DRC would suggest that each stage comprise no more than 10% of the proposed lot yield.
        - *"Monitor groundwater levels on and within 1km of the site and use resulting water level to guide mitigation measures*". This

recommendation is vague and does not place responsibility for the action on any person or organisation. DRC believe this should be the responsibility of the proponent.

- The SSM review of Daisy Hill Groundwater and Salinity Modelling found;
    - EnviroWest propose the concept that vegetation planted along the subdivisions roads will intercept groundwater, both at depths greater than 6m and uniformly. SSM cite research by Stirzaker which disproves both concepts. Tree zones will be able to intercept groundwater only shallower than 6m, and the zones between plantings (i.e. the residential lots) will experience significantly shallower groundwater than that once this state has been achieved as shown by the following diagram (taken from the SSM review).

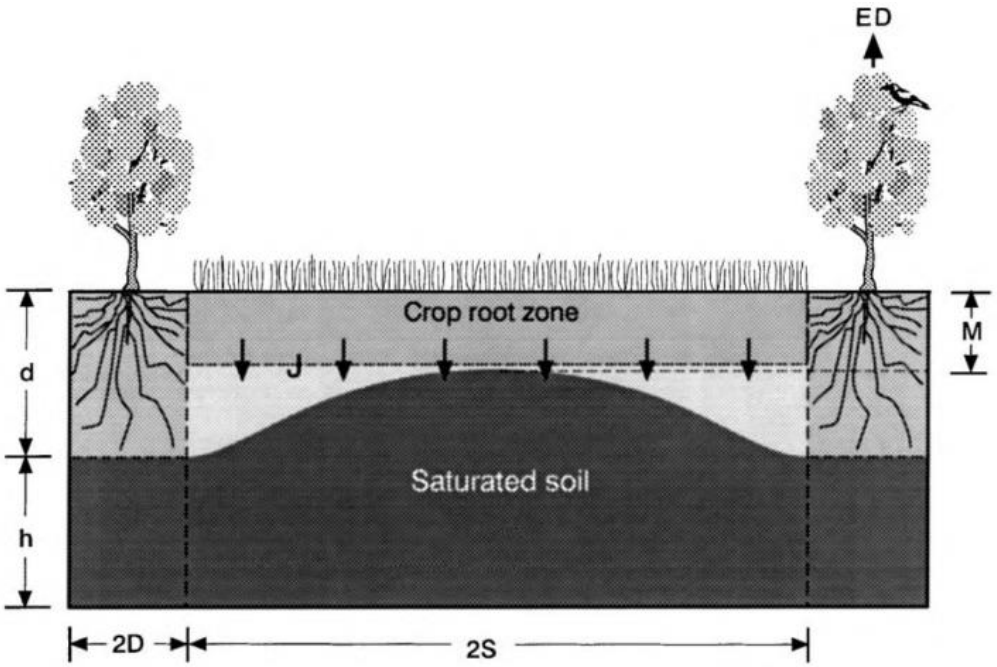

Figure 3. Schematic diagram showing the shape of the saturated zone between lines of trees on flat land when water table is above bottom of tree rootzone (from Stirzaker *et al.*, 2003). Symbols are; **S** is maximum half space to keep water table at desired level, **D** is half width of tree belt, **E** is annual use of water from water table, **M** is water table depth at mid point, **d** is depth to water table below trees, **h** is height of water table above impermeable layer, **J** is deep drainage below crop rootzone.

    - EnviroWest propose that tree plantings alone will lower the water table sufficiently to minimise shallow groundwater within the estate. Vegetation planting along roadways will likely lower groundwater along the planted corridors (roadways) but, as shown above will not decrease groundwater levels at distance (i.e. on the residential lots). Furthermore in order for groundwater to reach levels at which tree plantings will impact the groundwater level that groundwater must rise to <6m. In order to achieve

this, significant lateral pressure will be driving groundwater off site towards the vulnerable existing developments of Troy Gully and Eastridge.
    - EnviroWest have used an appropriate vertical modelling but appear not to have modelled horizontal groundwater flow.
    - The proposed subdivision will increase accession to the deep groundwater (i.e. >6m) thereby increasing lateral groundwater movement off site, i.e. towards Troy Gully.
    - Groundwater levels are currently shallow enough in 1 of 6 sites monitored that capillary rise would be expected to bring salt to the surface. DRC propose that this specific area not be developed and a substantial tree planting occur.
- The SSM comments in regard the Salinity Management Strategy;
    - The Salinity Management Strategy (SMS) focuses on shallow groundwater on the Daisy Hill estate site only. It does not address deep drainage which EnviroWests modelling identifies. This deep drainage is likely to move off site (i.e. to Troy Gully and Eastridge)
    - DRC is of the view that the SMS is not a single overarching document, it is dependent upon other documents and this, combined with its inability to address deep groundwater movement reduce the effectiveness and reliability of the Strategy. This in turn reinforces the need for long term groundwater monitoring in the order of at least 10 years, both on and off site, between stages and for restriction on stage sizing's to be no greater than 10% of proposed lot yield.
- The SSM comments in relation to the vegetation management Plan;
    - The species list proposed does not reflect the need for growth in shallow saline areas and is not appropriate.
    - There is no proposed variation in root architecture as was proposed in the SoilWater 2018 review.
    - The VMP contradicts earlier reports by stating the road reserves will not experience water logging
    - DRC is of the view that the plantings may serve to reduce groundwater, salinity and water logging on selected locations within the proposed estate but will not impact groundwater deeper than 6m (which will likely move off site downslope), nor will they serve to intercept shallower lateral movements off site as the bulk of the plantings are to the east of the subdivision rather than downslope to the west.

2. Development Control Plan

It is noted that a draft Development Control Plan for the land was included in the documents that were placed on public display. This is the first viewing Council has had of this document. In reviewing the exhibited documents, it appears that there

was no further information addressing how the draft Development Control Plan was prepared, and whether the draft DCP is a Policy administered by the State Government Department of Planning or if it is to be administered by Dubbo Regional Council.

Notwithstanding how the Joint Regional Planning Panel will consider the future management of the site specific Development Control Plan, Council requests further time in which to undertake a detailed review and to determine if the measures included in the draft Development Control Plan are appropriate to manage any development on the land and the impacts of that development.

It should also be noted that if the draft Development Control Plan is to form a Council Policy, this document should be reviewed by Council and to form a separate public engagement and review process, prior to the consideration of any submissions by Council.

(Attachment; Sustainable Soils management, "Review of Daisy Hill Groundwater and Salinity Study and Salinity Management Strategy", 2019)