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ITEM 3 DRAFT PLANNING PROPOSAL: LOT 100 DP 1207784 CORDEAUX ROAD, MT KEMBLA

On 30 January 2018, Council resolved to prepare a draft Planning Proposal for Lot 100 DP 1207784 Cordeaux Road, Mt Kembla, which seeks to facilitate the subdivision of the land into three large residential lots, together with the establishment of a Conservation Agreement and funding mechanism administered by the Biodiversity Conservation Trust (OEH) to protect in perpetuity the identified environmental values on site. This site was considered in the Farmborough Heights to Mt Kembla Concept Plan that was endorsed by Council (9 December 2013) and the Department of Planning (20 March 2014) to guide future development potential for this area. The draft Planning Proposal was exhibited between 29 May and 27 June 2018 and 18 submissions were received including three form letters.

The purpose of this report is to provide feedback on the exhibition and the advice of the Wollongong Local Planning Panel, and to finalise the Planning Proposal.

RECOMMENDATION

1 The draft Planning Proposal for Lot 100 DP 1207784 Cordeaux Road, Mt Kembla be progressed, following the registration of the Conservation Agreement on land title with the Office of Environment and Heritage, by finalising the Planning Proposal that seeks to amend the Land Zoning Map by -

   a rezoning 2.36 hectares of the site from E3 Environmental Management to E4 Environmental Living with a Minimum Lot Size of 5,999m² and Floor Space Ratio of 0.3:1; and

   b rezoning 6.61 hectares from E3 Environmental Management to E2 Environmental Conservation with a Minimum Lot Size of 39.99 hectares.

2 The final Planning Proposal be referred to the NSW Department of Planning and Environment for the making of arrangements for drafting to give effect to the final Proposal, noting that the General Manager will thereafter proceed to exercise his delegation issued by the NSW Department of Planning and Environment under Section 69 in relation to the final Proposal.

3 The Conservation Agreement for the riparian lands be finalised and registered on land title with the Biodiversity Conservation Trust (OEH), funding obtained and active management underway, prior to the issuing of a subdivision development approval.

REPORT AUTHORISATIONS

Report of: David Green, Manager Environmental Strategy and Planning (Acting)
Authorised by: Andrew Carfield, Director Planning and Environment - Future City and Neighbourhoods

ATTACHMENTS

1 Concept Plan 2013 Map: Mount Kembla
2 Site Locality Map and Current Zoning
3 Indicative Subdivision Plan
4 Proposed Zoning, Minimum Lot Size and Floor Space Ratio Maps
5 Vegetation Management Plan
6 Petition received prior to Public Exhibition
7 Summary of Submissions
8 Wollongong Local Planning Panel Advice

BACKGROUND

On 13 April 2011, the NSW Department of Planning and Infrastructure (now Department of Planning and Environment) requested that Wollongong City Council prepare a Planning Strategy for the area between Farmborough Heights and Mt Kembla in order to develop a strategic framework to properly consider rezoning proposals, so that a lasting solution to the development potential and environmental management of the area could be identified. A working party comprising representatives from the Department and Council officers developed a Scope of Works and identified a study area boundary for the Planning Strategy, which were reported to Council at the 27 February 2012 meeting.

Council resolved to commit $171,527 to prepare the Farmborough Heights to Mt Kembla Concept Plan, in recognition of concerns raised by the community surrounding the need for an independent and up to date assessment of the environmental attributes of the area and the capacity to accommodate any increase in residential development. A comprehensive series of technical studies was conducted, including:

- Ecological and Riparian Assessment;
- Bushfire Constraints Analysis;
- Geotechnical and Topography Assessment;
- Contamination Assessment;
- Preliminary Assessment of Aboriginal and Non-Indigenous Heritage;
- Traffic and Transport Assessment;
- Stormwater Management, Drainage and Flooding Review;
- Visual Impact and Landscape Character Assessment;
- Utilities and Essential Services Review; and
- Strategic Planning Context Analysis.

The Department of Planning and Infrastructure (the Department) required the Concept Plan to be consistent with and complement the Illawarra Escarpment Strategic Management Plan (IESMP) and Illawarra Escarpment Land Use Review Strategy (IELURS). A significant objective of the Concept Plan was to identify the key environmental attributes to be enhanced, and require that any development be linked to the protection and enhancement of those environmental attributes. The environmental attributes were mapped, with areas identified for conservation and hence recommended for no residential development. The residual lands were identified as having potential to accommodate an appropriate scale of residential development on the basis of a lack of constraints (ie. dominated by cleared land and exotic vegetation with little ecological value) and provided it could be demonstrated through a Planning Proposal that an improved environmental outcome could be achieved.

The Farmborough Heights to Mt Kembla Concept Plan (GHD 2013) identified:

- 231 hectares of proposed conservation areas;
- 100 hectares of potential residential development areas;
- An estimated maximum additional development potential of:
  - 78 dwellings in Farmborough Heights;
  - 107 dwellings in Cordeaux heights; and
  - 26 dwellings in Mount Kembla.

On 9 December 2013, Council considered a report on the outcomes of the studies and extensive community and stakeholder consultation, and resolved to adopt the Farmborough Heights to Mt Kembla Concept Plan and seek endorsement of the strategic document by the Department of Planning and Infrastructure to guide any future rezoning proposals. In a letter dated 20 March 2014, the Deputy Director General acknowledged the significant resources committed to the preparation of the Concept Plan by Council, and endorsed the Concept Plan as a strategic study to guide future Planning Proposals in the precinct.

The role of the Concept Plan is to guide development in the area in the context of active conservation, with individual Planning Proposals invited for specific land holdings identified in the Concept Plan, supported by updated and more detailed studies. The key objectives of the Concept Plan were to provide certainty for the community by identifying land suitable for conservation and potential development, and provide the opportunity to implement a number of mechanisms that will conserve and manage the environmental attributes of the area.

In January 2017, a Planning Proposal request was submitted by Cardno on behalf of the landowner for Lot 100 DP 1207784 Cordeaux Road, Mt Kembla which seeks to facilitate the subdivision of the land into three large residential lots, together with the establishment of a Conservation Agreement and funding mechanism administered by the Biodiversity Conservation Trust (Office of Environment and Heritage) to protect in perpetuity the identified environmental values on site. This site was considered in the Farmborough Heights to Mt Kembla Concept Plan that was endorsed by Council (2013) and the NSW Department of Planning (2014). The Concept Plan identified potential for limited development at this site, provided (among other considerations) that in perpetuity conservation efforts supported by funding could be demonstrated (Attachment 1).

The site is approximately nine hectares in size and is currently zoned E3 Environmental Management. It is bounded by land zoned E4 Environmental Living to the south and east, and E3 Environmental Management to the west (Attachment 2).

The endorsed Concept Plan identified potential to rezone this site at Cordeaux Road Mt Kembla to permit additional large lot residential development, subject to satisfying the accompanying Planning Principles and demonstration that an improved environmental outcome could be achieved for the land. The Concept Plan recommended an E4 Environmental Living zoning for the developable area with a minimum lot size of 5,000m², given the proximity to the escarpment and the desire for any development to be rural residential in character. This zoning controls for a more limited range of permitted land uses appropriate to the surrounding environmental setting and importantly this E4 Environmental Living zoning won't allow further subdivision for dual occupancies and multi dwelling houses. The Concept Plan identified the opportunity for the long term management, protection and enhancement of the riparian corridors on site, recommending an E2 Environmental Conservation zoning for these vegetated watercourses.

The development strategy contained in the draft Planning Proposal request seeks large lot residential development opportunity on land identified in the Concept Plan with little ecological value in the north west corner of the site (areas dominated by cleared land, grazed areas and exotic vegetation), and proposes to undertake ecological conservation and rehabilitation works associated with the riparian corridor in the south identified as containing environmental values. The submitted draft Planning Proposal request included an indicative subdivision layout depicting three rural/residential large lots, 5,801m², 18,474m² and 74,715m² in size in the north western part of the site, seeking a rezoning to the recommended E4 Environmental Living with a minimum lot size at 4,999m^2 (Attachment 3). An E2 Environmental Conservation zoning was proposed for 5.14 hectares of the site associated with the riparian corridor. The requirement in the Farmborough Heights to Mt Kembla Concept Plan to achieve a conservation outcome as the result of any Planning Proposal is proposed through the protection of the riparian corridor and vegetation in the south of the site with an E2 Environmental Conservation zoning and the establishment of a Conservation Agreement on land title for in perpetuity rehabilitation and management works. The Planning Proposal request is consistent with the Farmborough Heights to Mt Kembla Concept Plan:

Concept Plan recommendation:	**Planning Proposal request:**
Potential for three dwelling houses with E4 Environmental Living zoning with a minimum lot size of 5,000m² and E2 Environmental Conservation zoning for riparian corridors on site. Any Planning proposal request must demonstrate active conservation - in perpetuity conservation efforts with funding.	Rezone part of the site as identified in the Farmborough Heights to Mt Kembla Concept Plan (north western corner) to E4 Environmental Living to facilitate three dwelling houses, with a minimum lot size of 4,999m²; and Rezone part of the site identified in the Farmborough Heights to Mt Kembla Concept Plan requiring environmental protection and restoration to E2 Environmental Conservation – an in perpetuity Conservation Agreement for the riparian corridors will be registered on land title, administered by the Biodiversity Conservation Trust (NSW Office of Environment and Heritage).

The draft Planning Proposal request also indicates the desire the continue limited grazing on the proposed Lot 3 (74,715m^2), with the Vegetation Management Plan (VMP) including the installation of stock proof fencing as one measure to protect the riparian corridors identified for in perpetuity restoration and conservation works. The submitted draft Planning Proposal request proposed an E2 Environmental Conservation zoning over the riparian and cleared grazing lands. However, as the cleared grazing land does not have ecological value and will continue to be used for grazing, an E2 Environmental Conservation zone is not appropriate. Accordingly, it is proposed to retain the current E3 Environmental Management zoning in the cleared part of the site earmarked for grazing and achieve the conservation outcome through the protection of the riparian corridor and vegetation in the south with an E2 Environmental conservation zoning and the establishment of a Conservation Agreement for in perpetuity rehabilitation works.

The Office of Environment and Heritage (OEH) has identified that the subject site represents a strategically important linkage opportunity in the context of the foothills and escarpment, and strongly support a long term conservation outcome being achieved for the site through establishing the proposed conservation areas. A Vegetation Management Plan (VMP EcoPlanning 2017) details the management and restoration efforts for the areas designated as conservation zones, identifying an amount of $100,878 to provide on ground rehabilitation works over a five year period (Attachment 5). This VMP will provide the basis for a Conservation Agreement registered on land title and administered by the Biodiversity Conservation Trust (OEH) to ensure in perpetuity funding of conservation works. An in perpetuity Conservation Agreement will be required to be registered on land title, funding obtained and active management underway prior to the issuing of a subdivision development approval.

On 30 January 2018, Council considered a report on the draft Planning Proposal request and resolved:

1 *A draft Planning Proposal be submitted to the NSW Department of Planning and Environment for Lot 100 DP 1207784 Cordeaux Road, Mount Kembla seeking a Gateway determination to:*

   a *rezone 2.36 hectares of the site from E3 Environmental Management to E4 Environmental Living with a Minimum Lot Size of 5,000m² and Floor Space Ratio of 0.3:1;*

   b *rezone 5.14 hectares of the site from E3 Environmental Management to E2 Environmental Conservation; and*

   c *retain 1.47 hectares of the site as E3 Environmental Management zoning.*

2 *The draft Planning Proposal be exhibited for a minimum period of 28 days.*

3 The Department of Planning and Environment be requested to issue authority to the General Manager to exercise plan making delegations in accordance with Council's resolution of 26 November 2012.

A favourable Gateway determination was subsequently received on 29 March 2018 and the draft Planning Proposal was placed on exhibition between 29 May and 27 June 2018.

PROPOSAL

The purpose of the draft Planning Proposal request is to facilitate a development strategy for the subject lands to allow large lot residential development on part of the site, together with the establishment of a Conservation Agreement and funding mechanism administered by the Biodiversity Conservation Trust (OEH) to protect in perpetuity the identified environmental values on site. This is consistent with the Farmborough Heights to Mt Kembla Concept Plan and associated planning principles (2013), where any rezoning on a property must lead to an overall conservation improvement.

The development strategy for this site has the potential to support, rehabilitate and improve the following important environmental functions of the riparian corridor on site:

- Providing a diversity of fauna and flora habitat resources;
- Providing connectivity between wildlife habitats;
- Providing bed and bank stability and reducing bank and channel erosion;
- Protecting water quality by trapping sediment, nutrients and other contaminants; and
- Conveying flood flows and controlling the direction of flood flows.

The Vegetation Management Plan (VMP) prepared for the site has identified the following standard and other management actions for the restoration and stabilisation of the riparian areas, to improve biodiversity values:

- Weed control of noxious and exotic weed species;
- Revegetation to restore native vegetation cover over areas of cleared and disturbed pasture;
- Supplementary planting in areas of sparse native vegetation cover, to supplement natural regeneration and provide weed suppression;
- Sediment and erosion controls;
- Impede cattle access to revegetated areas of the site (stock proof fencing)
- Vertebrate pest management; and
- Create a vegetation buffer to riparian zones and maintenance of natural flow regimes in the riparian zone.

This VMP will provide the basis for a Conservation Agreement registered on land title and administered by the Biodiversity Conservation Trust (Office of Environment and Heritage) to ensure in perpetuity funding of conservation works.

The Farmborough Heights to Mt Kembla Concept Plan identifies Mt Kembla as having a high scenic and environmental quality that will need to be maintained and refers to Council's Development Control Plan (DCP) which has specific controls to preserve the historic identity and character of Mt Kembla village, as well as maintain a green corridor around the eastern approach to provide separation from the neighbouring suburbs of Cordeaux Heights and Unanderra. Consultation with the community during the development of the Concept Plan indicated a concern that, although recognised in the Illawarra Escarpment Management Plan (IESMP) and Council's DCP, there was at the time no current strategy to improve vegetation management of this corridor. The community feedback at that time additionally centred on the need for any development to be low scale to prevent urban creep from Cordeaux Heights.

The long term effects of the abovementioned management actions outlined in the Vegetation Management Plan for this site will be to strengthen the green physical and visual corridor between Cordeaux Heights and Mt Kembla, in line with the community's long standing vision to retain a unique historical identity, and secure a long term conservation outcome in association with the riparian corridor. Larger lot sizes were the recommendation of the Concept Plan in line with the environmental setting and the requirement to retain a green buffer around Mt Kembla.

CONSULTATION AND COMMUNICATION

The draft Planning Proposal was exhibited between 29 May and 27 June 2018 following the Gateway determination. The Gateway determination required that the following public authorities be consulted:

- NSW Roads and Maritime Services;
- NSW Rural Fire Service;
- NSW Office of Environment and Heritage;
- Department of Primary Industries – Water; and
- Sydney Water.

The public exhibition was advertised through Council's website and in the Illawarra Mercury (26 May 2018) and Advertiser (30 May 2018) newspapers. Copies of the suite of documents were available for viewing on Council's website, in Wollongong and Unanderra libraries, and at Council's Customer Service Centre in the Administration Building, Wollongong. Adjoining property owners, public authorities, and Neighbourhood Forum 5 were notified of the public exhibition by mail.

It should also be noted that Council received a petition signed by 91 residents in March 2018 prior to the suite of documents being placed on public exhibition (Attachment 6). Residents signing that petition were sent a letter advising of the exhibition period. All letters notifying the public exhibition included a reference to the Farmborough Heights to Mt Kembla Concept Plan (GHD 2013), and the suite of exhibition material included a copy of the Concept Plan.

As a result of the exhibition the website page received 208 views, five public authority submissions, 10 community letters (with 12 signatures), and three community form letters (total of 22 signatures) (Attachment 7).

Public Authority Submissions

The *Office of Environment and Heritage (OEH)* attended a site visit in March 2017 and identified that the subject site represents a strategically important linkage opportunity in the context of the foothills and escarpment. The OEH strongly support a long term conservation outcome being achieved for the site through establishing the proposed conservation areas. The Biodiversity Conservation Act 2016 and associated reforms commenced in August 2017, which have now introduced the Biodiversity Conservation Trust (Office of Environment and Heritage) with a key role to support and encourage landholders to enter into Conservation Agreements to protect biodiversity on private land. Under the new Biodiversity Conservation legislation, some Conservation Agreements will be eligible for stewardship payments and a range of assistance, with landowners able to access the Landholder Support Program.

The focus of the Planning Proposal on riparian conservation to improve the ecological value of the watercourse is consistent with the Illawarra Biodiversity Strategy (2011), which highlights the degradation of native riparian vegetation and invasion of exotic weeds as major threats to biodiversity in the Illawarra, and identifies the importance of Council encouraging conservation and restoration efforts on private land in this regard. The value of landscape connectivity is well recognised by various state, regional and local policies, including Australia's Biodiversity Conservation Strategy (2009) and the Southern Rivers Catchment Action Plan (2013-23). Maintaining connectivity and enhancing existing connectivity within corridors by regenerating or revegetating missing links is also one of the three recommended approaches to managing biodiversity in the face of climate change.

The OEH submission during the preliminary consultation phase requested the completion of an Aboriginal cultural heritage due diligence assessment. A due diligence assessment was subsequently completed in accordance with OEH guidelines (Biosis 2017), involving a desktop analysis and archaeological survey. No new sites were discovered during the archaeological survey with the conclusion drawn that the entire study area is assessed as having low archaeological potential.

The *NSW Rural Fire Service (RFS)* raised no objection to the Planning Proposal, however noted that future lots will be required to provide Asset Protection Zones (APZs) as identified in the Bushfire Assessment report prepared by Peterson Bushfire (2017). Some minor adjustments to the VMP boundary were suggested by the RFS as a result of the public exhibition to ensure compliance with Planning for Bushfire Protection 2006. The VMP boundary adjustments recommended do not result in any reduction in the total area that will be subject to the VMP. In addition, the overall objectives and target of the VMP are unchanged.

The *Roads and Maritime Services (RMS)* raised no objections to the Planning Proposal, however noted that Council must be satisfied there are sufficient sight lines at the site's access point with Cordeaux Road.

Sydney Water raised no objections, noting that more detailed comments relating to servicing future residential developments will be provided when development applications are submitted to Council and referred to Sydney Water. Initial investigations show there is adequate capacity to service the proposed development, noting amplifications or extensions to the drinking water network may be required, however limited capacity exists in the trunk wastewater network system and a feasibility application will need to be lodged with Sydney Water.

The *Department of Primary Industries – Water* raised no objections, however stated that following a rezoning, appropriate protections would be required to ensure that the E2 Environmental Conservation zoned riparian area is protected from future activities such as hazard reduction measures to create Asset Protection Zones.

Community Submissions

As a result of the exhibition, a total of 13 submissions were received from the community, three of these submissions received as form letters (containing 22 signatures):

- Community Individual Letters (10, with 12 signatures);
- Community Form Letter 1 (10 signatures);
- Community Form Letter 2 (eight signatures); and
- Community Form Letter 3 (four signatures).

The key concern expressed in 26 community submissions centred on the need to retain the green corridor at the entrance to the village and running behind the existing houses up to the fire trail. The green corridor is valued by the community as a physical and visual separation between neighbourhoods, allowing the Mt Kembla village to maintain its unique historic character and identity, as a separate locality. Additional residential development and the potential for urban sprawl were cited as a threat to the green corridor, which could render Mt Kembla an extension of Cordeaux Heights and Unanderra. Related to this, 11 submissions questioned whether additional residential development could contribute to the rehabilitation of environmentally sensitive areas and result in an improved environmental outcome at the site. Submissions cited a desire to retain the paddocks on the approach to the village where the shared pathway is well utilised and valued by the wider community, and were concerned about loss of vegetation and the impact on wildlife corridors at the foothills of Mt Kembla.

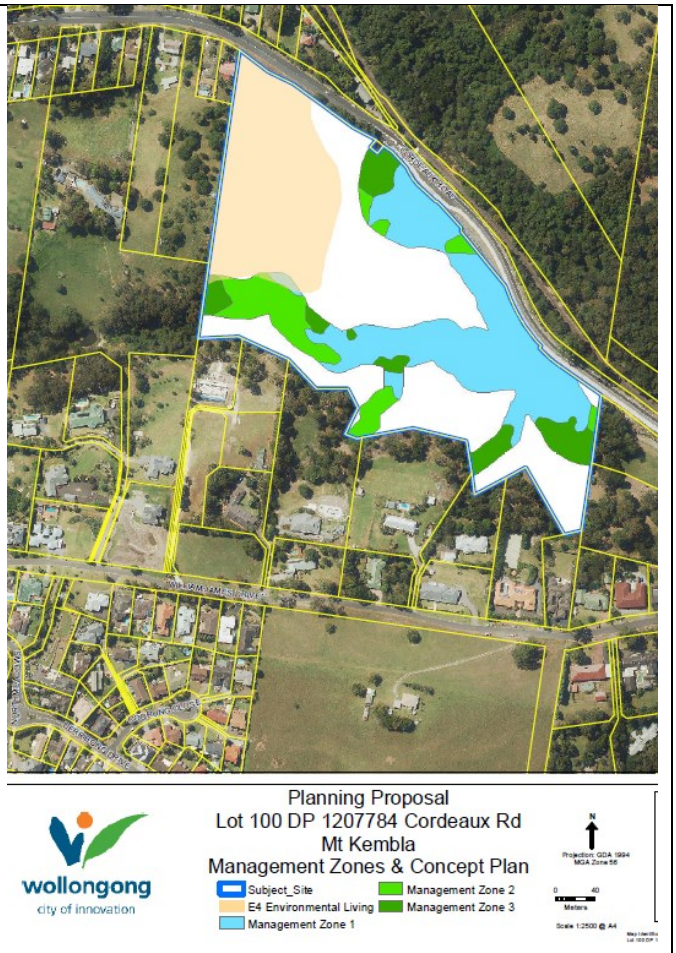
The Farmborough Heights to Mt Kembla Concept Plan identifies Mt Kembla as having a high scenic and environmental quality that will need to be maintained and refers to Council's Development Control Plan (DCP) which has specific controls to preserve the historic identity and character of Mt Kembla village, as well as maintain a green corridor around the eastern approach to provide separation from the neighbouring suburbs of Cordeaux Heights and Unanderra. The Concept Plan for the Mt Kembla precinct highlights the green corridor to be preserved (and for proposed rehabilitation) as "E2 Environmental Constraint" (Attachment 1).

The Vegetation Management Plan (VMP) prepared for the site responds to the Concept Plan, detailing the management and restoration efforts for the riparian corridor designated as a conservation zone. An amount of $100,878 has been identified to provide on ground rehabilitation works. This VMP will provide the basis for a Conservation Agreement registered on land title and administered by the Biodiversity Conservation Trust (OEH) to ensure in perpetuity funding of conservation works. This report is seeking a Council resolution that the Planning Proposal be finalised once the Conservation Agreement is registered on land title with OEH, and then the issuing of subdivision development approval being conditional on funding being obtained and active management underway. These measures are to ensure any development occurs in the context of active conservation, with the long term effects of the VMP management actions being to strengthen the green physical and visual corridor between Cordeaux Heights and Mt Kembla, in line with the community's long standing vision to retain a unique historical identity. This is illustrated in the aerial maps below, depicting:

1 The current extent of the green corridor around the eastern approach to Mt Kembla village and separation from Cordeaux Heights, and

2 The VMP three Management Zones identified for specific regeneration and revegetation works, aimed at expanding the green corridor at the entrance to the Mt Kembla precinct and between the adjoining suburbs, as envisaged by the Farmborough Heights to Mt Kembla Concept Plan.

Aerial showing current extent of Green Corridor



Vegetation Management Plan Proposed Extension of Green Corridor

Management Zone 1: Reconstruction through revegetation

Management Zone 2: Assisted natural regeneration and revegetation

Management Zone 3: Assisted natural regeneration

The *Office of Environment and Heritage (OEH)* has identified this site as representing a strategically important linkage opportunity and support the protection and rehabilitation of the riparian corridor area by an in perpetuity Conservation Agreement registered on land title.

A total of 26 submissions expressed concern that the properties had been purchased in the full knowledge of the planning restrictions and landowners therefore should not expect to have their properties rezoned. A further 25 submissions raised concerns that allowing these rezonings would set a precedent and encourage other rezoning and subdivision enquiries. The intent of the developing the Concept Plan in 2013 was to provide the community with certainty, identifying areas that could potentially accommodate additional limited residential development, along with the areas of environmental quality to be protected and rehabilitated. Planning Proposals are now being considered for the sites identified in the Concept Plan and evaluated in relation to consistency with that Plan.

Overall nine submissions expressed the view that, given Council is a financial beneficiary of increased rates with these subdivisions, can they be trusted to act on the behalf of the community. The Council made the decision to invest significant funds in 2013 to engage independent professional advice to develop the Farmborough Heights to Mt Kembla Concept Plan in order to provide certainty to the community as to development potential of the area and identify areas of ecological significance to be protected.

The table below summaries the key findings from the public exhibition:

Submission		**Comment**
Support exhibited draft Planning Proposal.	Office of Environment and Heritage (OEH)	This support reflects acknowledgement that the riparian corridor represents a strategically important linkage opportunity. The OEH support the long term conservation and protection of the riparian corridor area through establishing the proposed environmental corridor under an E2 Environmental Conservation zoning, as envisaged by the Farmborough Heights to Mount Kembla Concept Plan (2013), and by an in perpetuity Conservation Agreement registered on land title and administered by the Biodiversity Conservation Trust (OEH). The OEH submission states the property is identified in the Illawarra Shoalhaven Regional Plan (2015) as occurring within a biodiversity corridor, with the proposal considered consistent with the ISRP provisions to look for opportunities to improve funding and resilience of corridors in strategic planning.
No objection.	NSW Rural Fire Service (FRS) Roads and Maritime Services (RMS) Sydney Water Department of Primary Industries – Water	Noted.

Submission		Comment
Concern about need to retain the green corridor at the entrance to the village and running behind the existing houses up to the fire trail.	26 community submissions	The Farmborough Heights to Mt Kembla Concept Plan identifies Mt Kembla as having a high scenic and environmental quality that will need to be maintained and refers to Council's Development Control Plan which has specific controls to preserve the historic identity and character of Mt Kembla village, as well as maintain a green corridor around the eastern approach to provide separation from the neighbouring suburbs of Cordeaux Heights and Unanderra.
Question whether additional residential development could contribute to the rehabilitation of environmentally sensitive areas and result in an improved outcome at the site.	11 community submissions	The Vegetation Management Plan prepared for the site responds to the Concept Plan, and will provide the basis for a Conservation Agreement registered on title and administered by the Biodiversity Conservation Trust (OEH) to ensure in perpetuity funding of conservation works. The long term effects of the VMP management actions will be to strengthen the green physical and visual corridor between Cordeaux Heights and Mt Kembla, in line with the community's long standing vision to retain a unique historical identity. The OEH identified that the site represents a strategically important linkage opportunity. The OEH submission states the property is identified in the Illawarra Shoalhaven Regional Plan (2015) as occurring within a biodiversity corridor, with the proposal considered consistent with the ISRP provisions to look for opportunities to improve funding and resilience of corridors in strategic planning. An amount of $100,878 has been identified in the VMP to provide on ground rehabilitation works to strengthen the green corridor.
Concern that the properties have been purchased in the full knowledge of the planning restrictions and landowners should not expect to have their properties rezoned.	26 community submissions	The intent of developing the Concept Plan in 2013 was to provide the community with certainty, identifying areas that could potentially accommodate additional limited residential development, along with the areas of environmental quality to be protected and rehabilitated. Planning Proposals are now being considered for the sites identified in the Concept Plan and evaluated in relation to consistency with that Plan.
Allowing these rezonings will set precedent and encourage other rezoning and subdivision enquiries.	25 community submissions	The Concept Plan identified potential to rezone this site to permit additional large lot residential development, subject to demonstration that an improved environmental outcome could be achieved.

Submission		Comment
Can Council be trusted to act on the behalf of the community; given Council is a financial beneficiary of increased rates with these subdivisions.	9 community submissions	Council made the decision to invest significant funds in 2013 to engage independent professional advice to develop the Farmborough Heights to Mt Kembla Concept Plan in order to provide certainty to the community as to development potential of the area and identify areas of ecological significance to be protected.

Internal Feedback

Comment on the draft Planning Proposal was received from four internal divisions of Council. Development Engineering indicated no objection from a stormwater and floodplain management perspective, noting that any future development of the land will be subject to the requirements of Wollongong DCP 2009 Chapters E13 and E14, Clause 7.3 of Wollongong LEP 2009 and the NSW Government's Floodplain Development manual 2009.

The Traffic team had no objection, noting that the land proposed for rezoning is located adjacent an existing residential area and the indicative development scheme provides connectivity with the existing road network and pedestrian infrastructure.

The geotechnical review indicated that the proposal demonstrates feasibility of the proposed development from a geotechnical perspective.

The Environment team attended a site visit to confirm environmental values on site and indicated that the actions outlined in the VMP would result in a moderate to high level Biodiversity outcome being achieved. The recommendation was that an appropriate conservation agreement should be registered, funding obtained and active management underway prior to the issuing of a subdivision DA to ensure an improved biodiversity outcome, as envisaged by the new Biodiversity Conservation Act 2016.

Wollongong Local Planning Panel Advice

The Wollongong Local Planning Panel considered the Planning Proposal on 31 October 2018 following a request from Ward 2 Councillors seeking the Panel's independent advice on consistency with the Farmborough Heights to Mt Kembla Concept Plan.

The Panel agreed that the site has both strategic and site specific merit and is consistent with the Farmborough Heights to Mt Kembla Concept Plan. The Panel noted the submissions received from residents and suggested:

- Council might consider removing the proposed E3 Environmental Management zone and making it E2 Environmental Conservation – this would not prevent the indicated subdivision and anticipated uses of the site but would better meet the community concern to maintain the site's rural character; and

- Council consider increasing the minimum lot size from 4,999m² to 5,999m² in the proposed E4 Environmental Living zone to ensure only three lots can be achieved, consistent with the Concept Plan (Attachment 1).

It is recommended that Council accept the advice of the Panel and amend the Draft Planning Proposal accordingly. The draft LEP maps have been updated accordingly (Attachment 4).

PLANNING AND POLICY IMPACT

This report contributes to the delivery of Our Wollongong 2028 goal "*The natural environment is protected and enhanced*" under the Community Goal "*We value and protect our environment*". It specifically delivers on the following:

Community Strategic Plan	Delivery Program 2018-2021	Operational Plan 2018-19
Strategy	3 Year Action	Operational Plan Actions
1.6.1 Our urban environment minimises impacts on habitat and biodiversity and areas of high conservation value are protected	1.6.1.1 Review planning controls for environmentally sensitive locations	Continue to assess Planning Proposals against environmental strategies, including the Illawarra Biodiversity Strategy and the Illawarra Escarpment Strategic Management Plan.

The endorsed Farmborough Heights to Mt Kembla Concept Plan is importantly consistent with and complements the Illawarra Escarpment Strategic Management Plan (IESMP 2015) and the Illawarra Escarpment Land Use Review Strategy (IELURS 2007). Succinctly, the IESMP and IELURS consider that limited development may be possible having regard to the environmental sensitivity of the receiving environment provided there are mechanisms in place to drive rehabilitation and restoration of the land and its surrounds. One of the principles of the IESMP is "recognition that the asset (the Escarpment) is in a degraded state and therefore continual improvement is required". The Farmborough Heights to Mt Kembla Concept Plan is also consistent with the objectives and targets of regional strategies including the Illawarra Biodiversity Strategy (2011) and Illawarra Regional Strategy 2006-31 (2007), with a focus on priority vegetation and important habitat corridors.

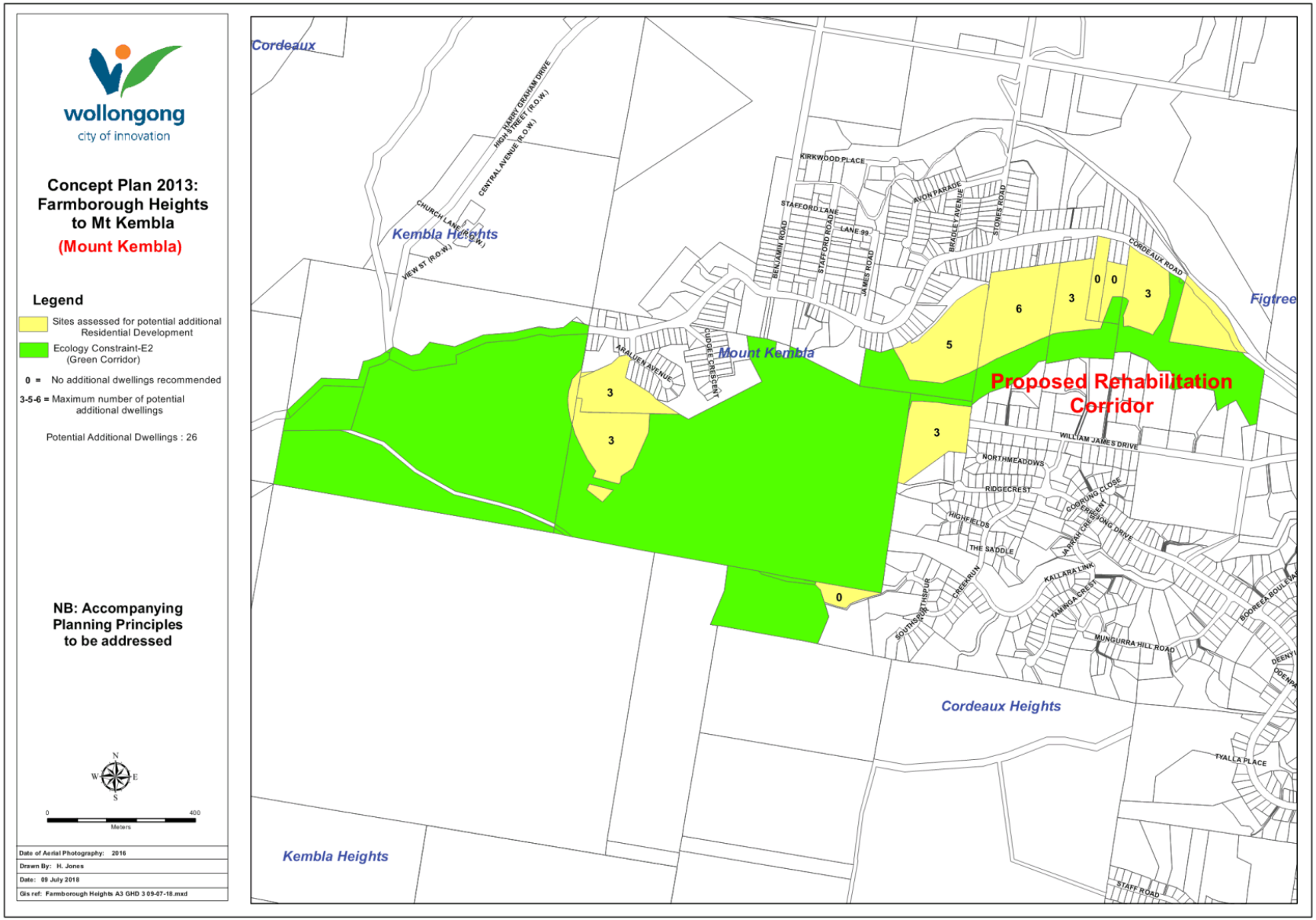
CONCLUSION

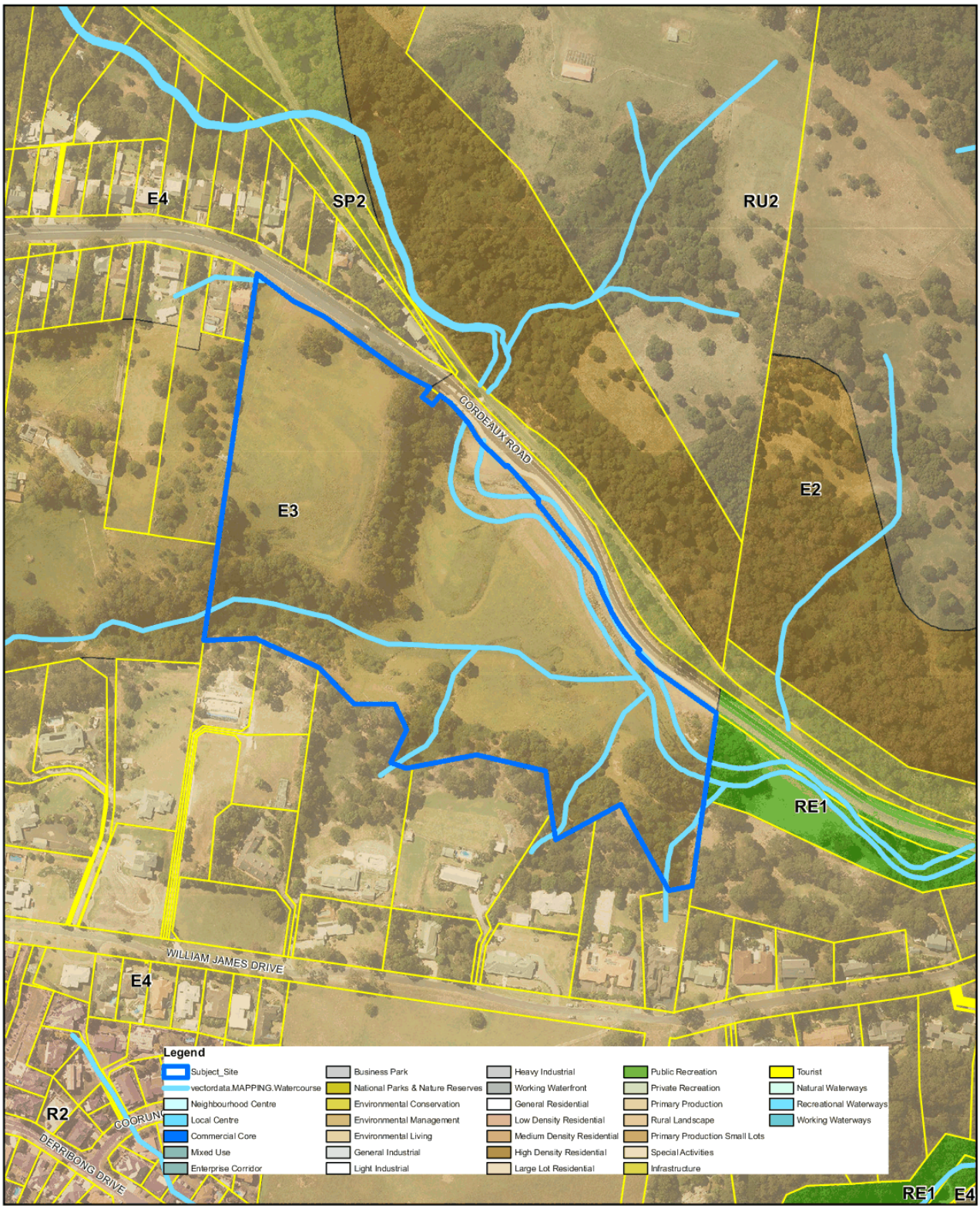
Council at its 27 February 2012 meeting resolved to commit $171,527 to prepare the Farmborough Heights to Mt Kembla Concept Plan to guide future development in the precinct. The Department of Planning and Infrastructure endorsed the Concept Plan, stipulating that any development must be accompanied by an improved environmental outcome.

The Planning Proposal for Lot 100 DP 1207784 Cordeaux Road Mt Kembla is consistent with the recommendations contained in the Farmborough Heights to Mt Kembla Concept Plan. The Office of Environment and Heritage has acknowledged the potential for net conservation gains at this site and support a long term conservation outcome being achieved. The establishment of a Conservation Agreement, registered on land title and administered by the Biodiversity Conservation Trust (OEH) will provide the legal and financial mechanism to achieve active conservation on this site, as required by the Concept Plan.

The in perpetuity protection of ecologically constrained land with funding in association with low density limited residential development will provide a suitable development outcome for this site whilst significantly enhancing the biodiversity values of an important riparian and habitat corridor. Registration of the Conservation Agreement on land title with the Office of Environment and Heritage will be required prior to finalisation of the Planning Proposal, as evidence of the active conservation required by the Concept Plan. The management actions outlined in the VMP, including extensive revegetation works, will expand and strengthen the green physical and visual corridor between Cordeaux Heights and Mt Kembla, in line with the community's long standing vision to retain the unique historical identity of Mt Kembla village.

It is recommended that Council resolve to finalise the exhibited Planning Proposal for Lot 100 DP 1207784 Cordeaux Road, Mt Kembla.


wollongong
city of innovation
Concept Plan 2013:
Farmborough Heights
to Mt Kembla
(Mount Kembla)
Legend
Sites assessed for potential additional Residential Development
Ecology Constraint-E2 (Green Corridor)
0 = No additional dwellings recommended
3-5-6 = Maximum number of potential additional dwellings
Potential Additional Dwellings : 26
NB: Accompanying Planning Principles to be addressed
N
W
E
S
0
400
Meters
Date of Aerial Photography: 2016
Drawn By: H. Jones
Date: 09 July 2018
Gis ref: Farmborough Heights A3 GHD 3 09-07-18.mxd
Cordeaux
Kembla Heights
Mount Kembla
Figtree
Cordeaux Heights
Kembla Heights
Proposed Rehabilitation Corridor
HARRY GRAHAM DRIVE
HIGH STREET (R.O.W.)
CENTRAL AVENUE (R.O.W.)
CHURCH LANE (R.O.W.)
VIEW ST (R.O.W.)
KIRKWOOD PLACE
STAFFORD LANE
STAFFORD ROAD
LANE 99
BENJAMIN ROAD
JAMES ROAD
AVON PARADE
BRADLEY AVENUE
STONES ROAD
CORDEAUX ROAD
ARALUEN AVENUE
CLODIE CRESCENT
WILLIAM JAMES DRIVE
NORTHMEADOWS
RIDGECREST
HIGHFIELDS
THE SADDLE
COORUNG CLOSE
JARRAH CRESCENT
JARRAH GROVE DRIVE
KALLARA LINK
TAMINGA CREST
CREERUN
SOUTHSPUR
MUNGURRA HILL ROAD
BOOREEA BOULEVARD
DEENYI
TYALLA PLACE
STAFFE ROAD
0
3
5
6



wollongong
city of innovation

Planning Proposal
Lot 100 DP 1207784 Cordeaux Rd
Mt Kembla
Site Locality and Current Zoning

Subject_Site

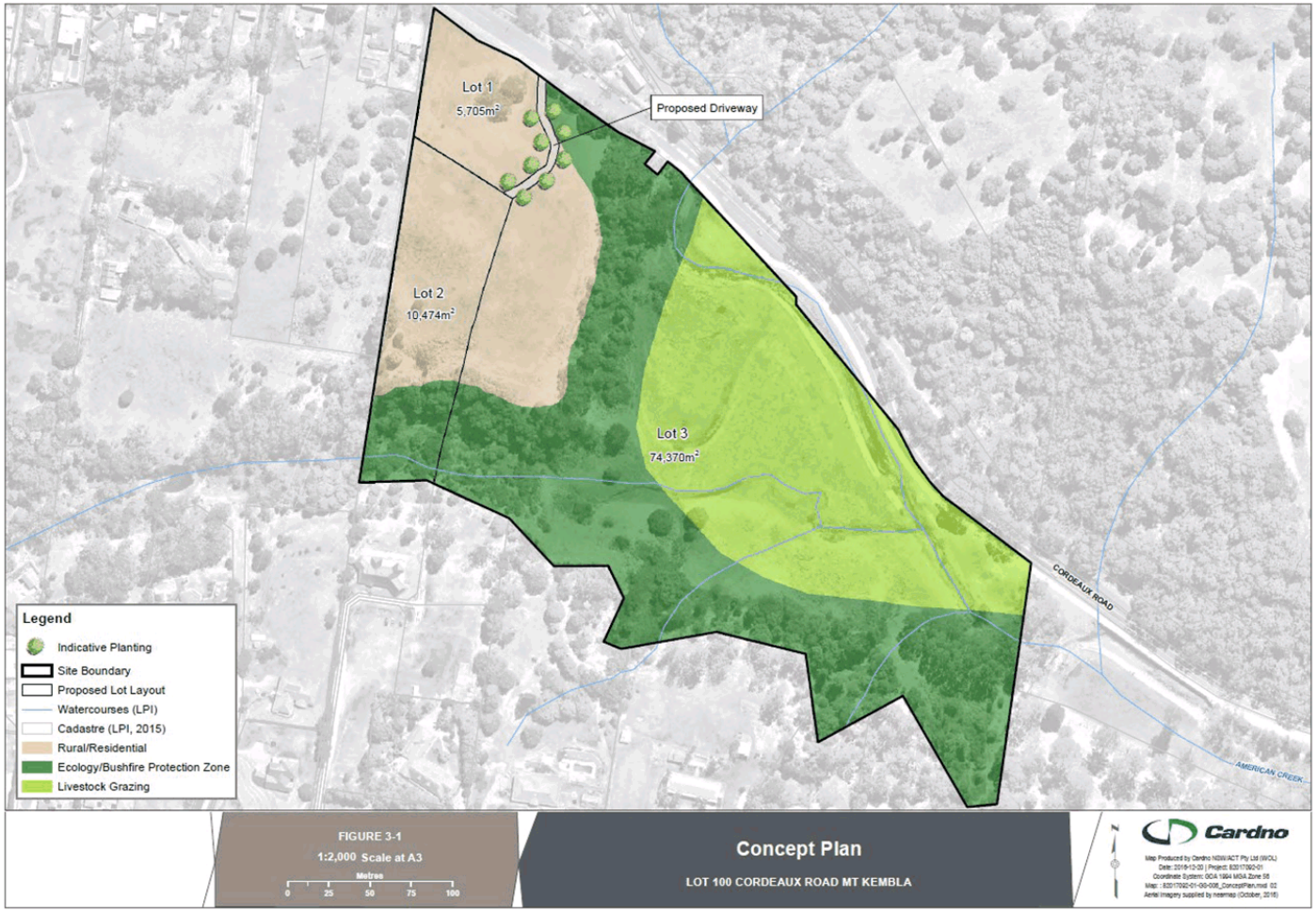
N

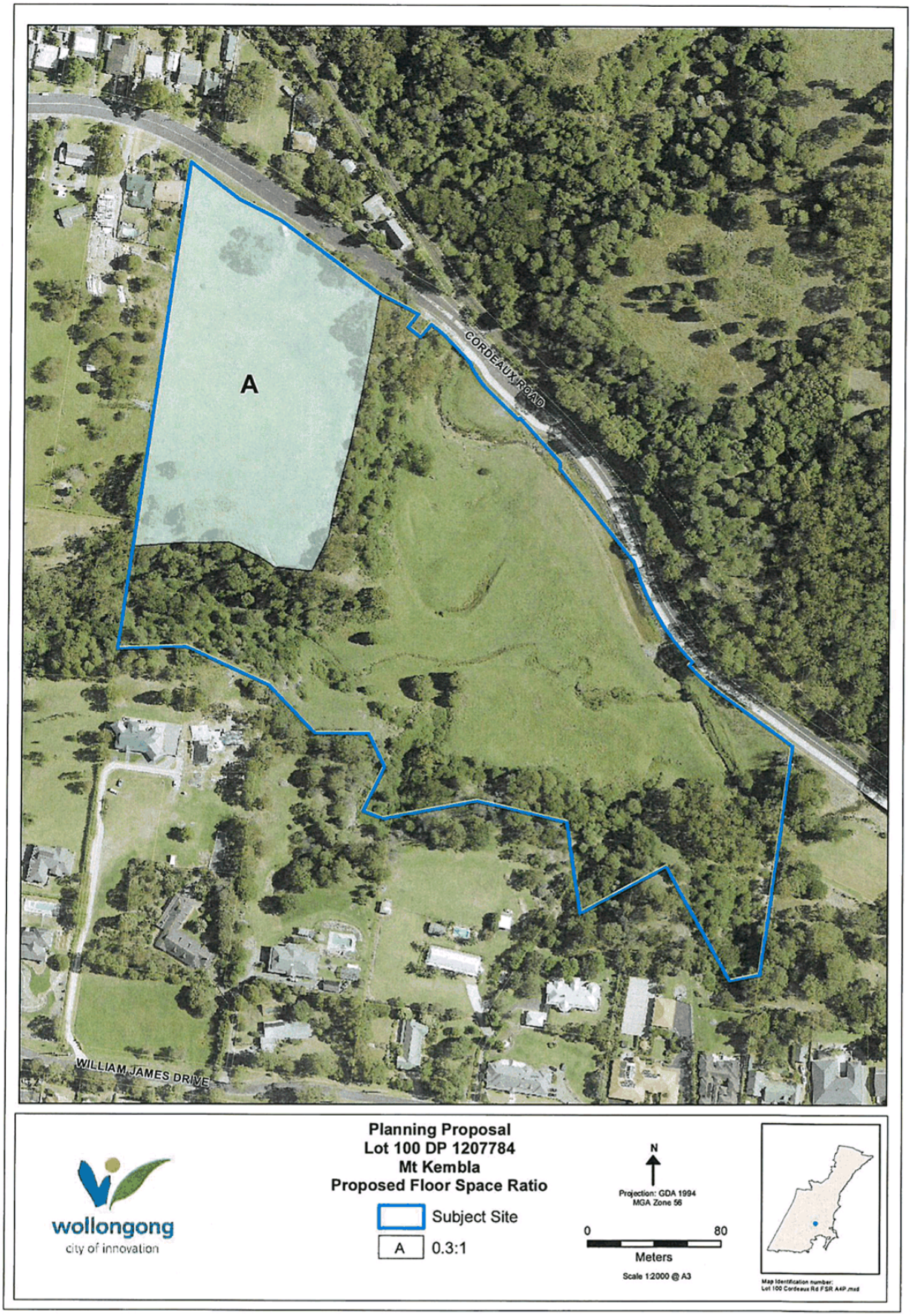
Projection: GDA 1994
MGA Zone 56

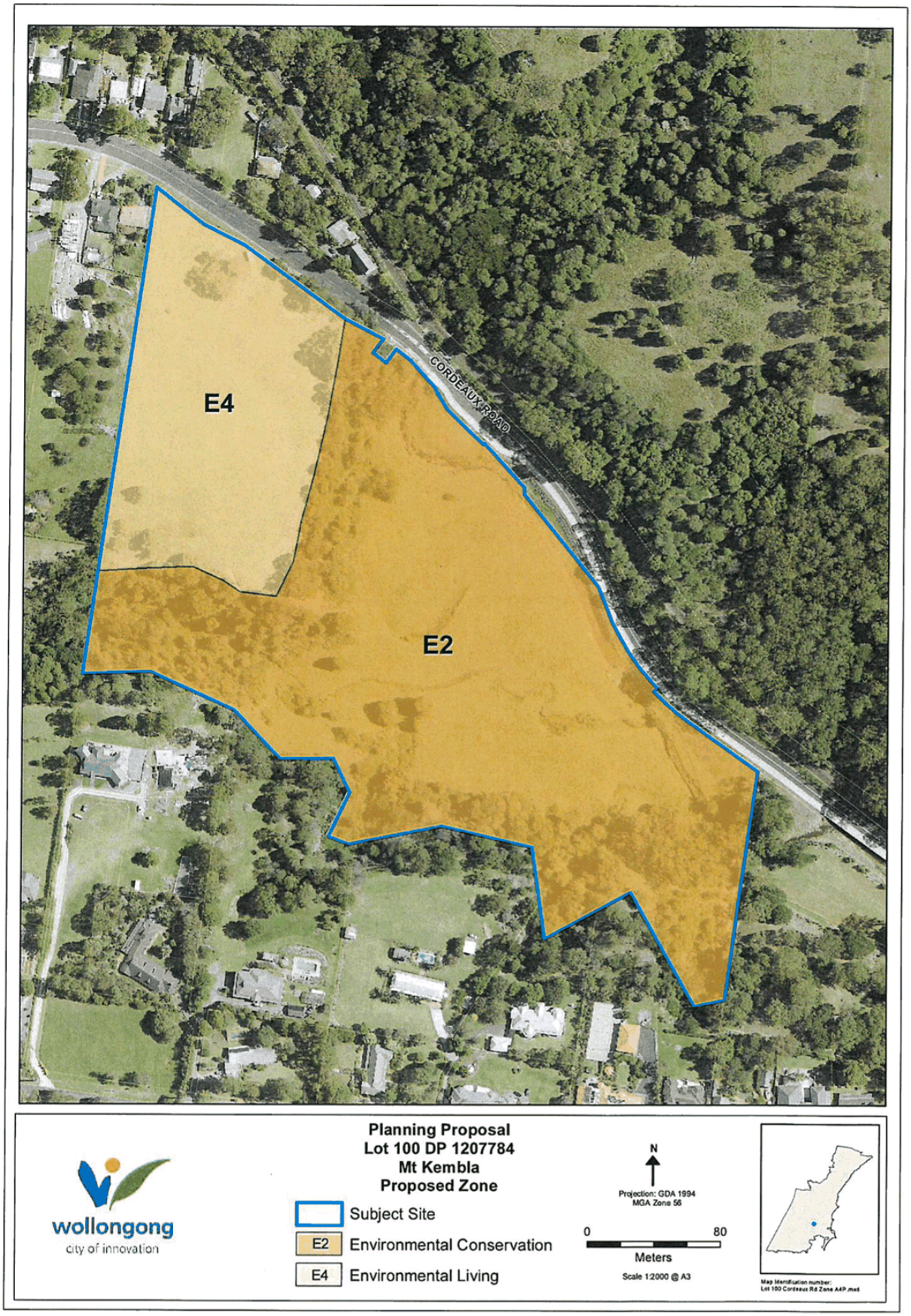
0 80
Meters

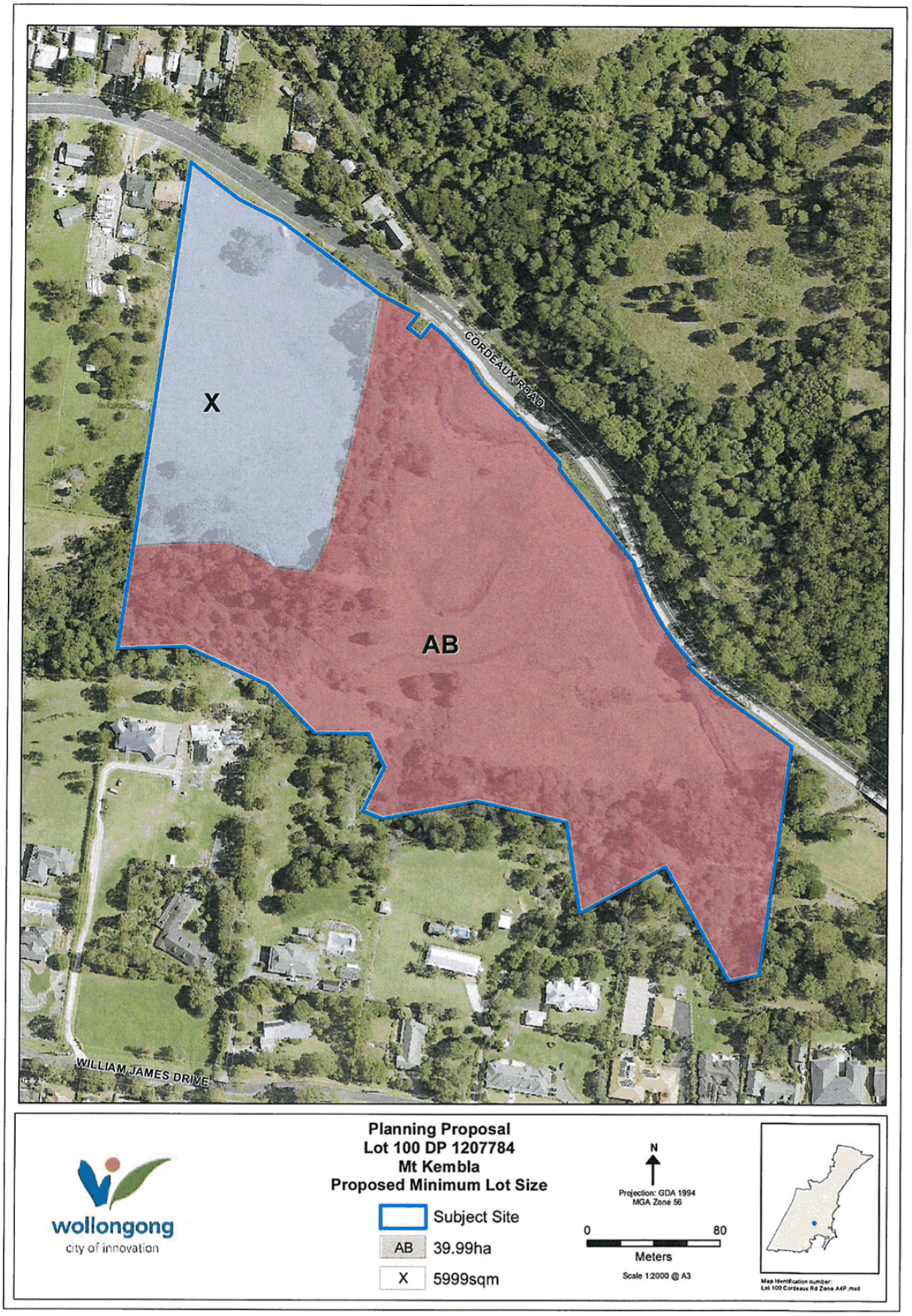
Scale 1:4000 @ A4

Map Identification number:
Lot 100 DP 1207784 Cordeaux Rd_LEP2009.mxd


Lot 1
5,705m²
Proposed Driveway
Lot 2
10,474m²
Lot 3
74,370m²
CORDEAUX ROAD
AMERICAN CREEK
Legend
Indicative Planting
Site Boundary
Proposed Lot Layout
Watercourses (LPI)
Cadastre (LPI, 2015)
Rural/Residential
Ecology/Bushfire Protection Zone
Livestock Grazing
FIGURE 3-1
1:2,000 Scale at A3
Metres
0 25 50 75 100
Concept Plan
LOT 100 CORDEAUX ROAD MT KEMBLA
Cardno

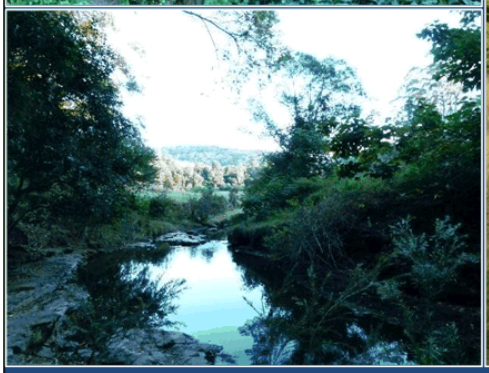

A
CORDEAUX ROAD
WILLIAM JAMES DRIVE
Planning Proposal
Lot 100 DP 1207784
Mt Kembla
Proposed Floor Space Ratio
Subject Site
A
0.3:1
wollongong
city of innovation
N
Projection: GDA 1994
MGA Zone 56
0
80
Meters
Scale 1:2000 @ A3


E4
E2
CORDEAUX ROAD
Planning Proposal
Lot 100 DP 1207784
Mt Kembla
Proposed Zone
Subject Site
E2 Environmental Conservation
E4 Environmental Living
N
Projection: GDA 1994
MGA Zone 56
0
80
Meters
Scale 1:2000 @ A3
wollongong
city of innovation


X
AB
CORDEAUX ROAD
WILLIAM JAMES DRIVE
Planning Proposal
Lot 100 DP 1207784
Mt Kembla
Proposed Minimum Lot Size
Subject Site
AB 39.99ha
X 5999sqm
N
Projection: GDA 1994
MGA Zone 56
0
80
Meters
Scale 1:2000 @ A3
wollongong
city of innovation

ecoplanning
ecology | planning | offsets

Vegetation Management Plan



Lot 100 // DP 1207784

Cordeaux Road, Mount Kembla, NSW 2526

Proposed residential subdivision

Prepared for Cardno Pty Ltd

1 August 2017

PROJECT NUMBER	2016-084		
PROJECT NAME	Vegetation Management Plan		
PROJECT ADDRESS	Lot 100 // DP 1207784, Cordeaux Road, Mount Kembla, NSW, 2526		
PREPARED FOR	Cardno Pty Ltd		
AUTHOR/S	Thomas Hickman		
REVIEW	Bruce Mullins		
VERSION	**Version**	**Draft/Final**	**Date to client**
	1.0	Draft	01/08/17

This report should be cited as: '*Ecoplanning (2017). Vegetation Management Plan, Lot 100 // DP 1207784, Cordeaux Road, Cordeaux Heights. Prepared for Cardno Pty Ltd.*'

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Glossary and abbreviations

Abbreviation	Description
*	Denotes exotic species
DA	Development Application
DCP	Development Control Plan
DPI	Department of Primary Industries
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
ha	Hectares
LGA	Local Government Area
MZ	Management Zone
NOW	NSW Office of Water (now DPI Water)
TSC Act	NSW *Threatened Species Conservation Act 1995*
VMP	Vegetation Management Plan
WLEP	Wollongong Local Environmental Plan 2009
WM Act	*NSW Water Management Act 2000*
WoNS	Weeds of National Significance

Contents

Figures

Tables

1. Introduction

1.1 Description of project and purpose of Vegetation Management Plan

The study area is Lot 100, DP 1207784, Cordeaux Road, NSW (**Figure** 1.1) on land that is currently zoned E3 – Environmental Management under the Wollongong Local Environmental Plan 2009 (WLEP). The objective of this VMP is to provide feasible management options for rehabilitating the riparian zones of the study area. At present, the cleared land in the north west of the study area is proposed to be sub-divided into three (3) residential Lots, with a majority of the conservation land to be contained within one of these lots. The vegetation management plan (VMP) is required to vegetate the riparian zone of all watercourses in the study area (referred to as the subject site, **Figure 1.1**). Several watercourses meander through the study area, including two 1st order streams, a 2nd order stream and American Creek, a 3rd order stream (**Figure 1.2**).

A review of aerial imagery from 1948/51, 1977, 2006, 2012 and 2014 illustrates that native vegetation has been removed from areas currently consisting of grassland/pasture for almost 70 years. The aerial imagery from 1948/51 shows the subject site to be mostly cleared, with a few patches of vegetation remaining in the west of the study area. Further clearing of native woody vegetation occurred between 1948/51 to 1977, with the exception of some scattered trees, which were retained. There is a general trend in the increase of vegetation cover since the early 2000's. The site assessment identified patches of Moist Box-Red-Gum Foothills Forest (MU13), 'Acacia scrub' and 'weeds and exotics' in the study area.

This VMP outlines management methods for the restoration and stabilisation of the riparian zones within the subject site in consideration of the recommendations outlined in Chapter E23 of the Wollongong Development Control Plan (DCP) 2009. Most of the land intended for management consists of cleared land, which has been grazed extensively. Cleared areas of the site consist predominantly of exotic pasture grasses, with occasional native groundlayer species, such as *Carex longebrachiata*. Some areas of the VMP subject site are partly vegetated, particularly in the east and west of the site. A stand of establishing *Eucalyptus saligna* x *botryoides* (Wollongong Woollybutt) is present in the south eastern corner of the site adjacent to American Creek. Woody weeds, including *Lantana* camara* (Lantana), *Senna pendula* var. *glabrata** and *Solanum mauritianum** (Wild Tobacco) dominate the midstorey, particularly in the west of the study area.

Revegetation of the cleared areas of the site, primary removal of woody weeds and the facilitation of assisted regeneration will be implemented to achieve the VMPs primary objectives:

- reduce the abundance and cover of all exotic species, particularly woody weeds, which are preventing the establishment and further succession of native plant species
- create revegetated riparian zones to buffer the watercourse from the impacts of the surrounding land use (e.g. nutrient enriched runoff). This will contribute to the health of the watercourse in the subject site and the overall catchment
- revegetate the subject site with a combination of native midstorey, overstorey and grasses/groundcovers, with considerations made towards the sites flooding capacity

- Impede cattle access to revegetated areas of the site, whilst allowing unimpeded access for grazing to occur in the remainder of the study area.
- increase the complexity of the habitat within the riparian zone for macroinvertebrates and terrestrial fauna, and
- improve the soil stability of the riparian zone through the revegetation of appropriate species.

Wollongong Local Government Area (LGA) require the submission of a VMP with any Development Application (DA) lodged for proposed developments within 40 m from the top of bank of any watercourse, lake or estuary in accordance with the Wollongong Development Control Plan (DCP) (2009). This report includes a proposal for staging of works to guide the weed management, revegetation and general restoration of the subject site by a qualified bush regeneration company. This VMP is intended to be implemented over a five year period, however, further maintenance may be required beyond the scope of this VMP (WCC 2017).

Figure 1.1: VMP subject site and study area.

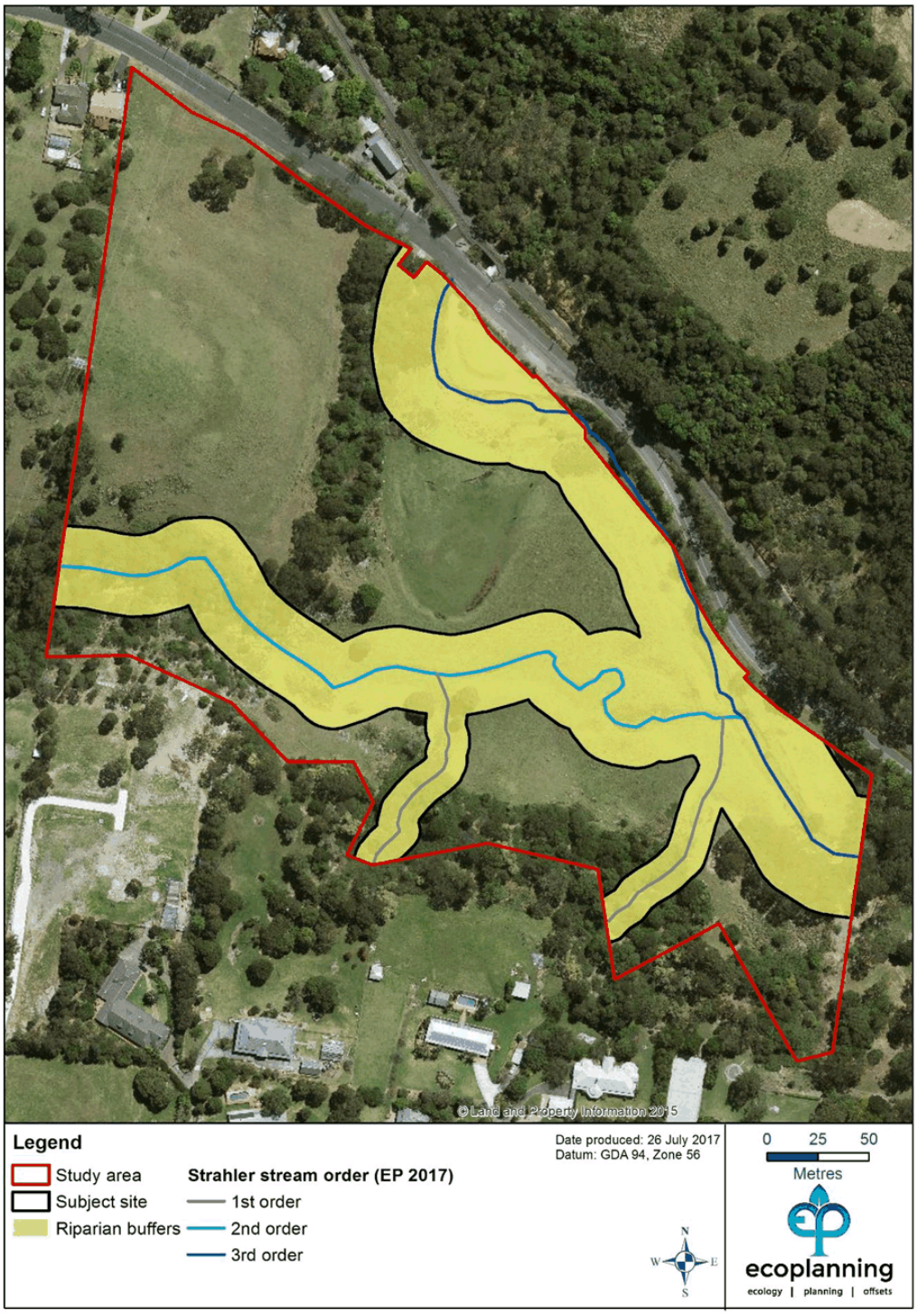

Figure 1.2: Strahler stream order and associated riparian buffers.

1.2 Site description

The suburb of Mount Kembla is situated on the midslopes of the Illawarra Escarpment. Mount Kembla is located approximately 4 km to the south west of the study area (**Figure 1.3**). An unnamed 2nd order watercourse runs in a north easterly direction through the centre of the study area. Two 1st order watercourses run in a north easterly direction and enter the 2nd order watercourse in the south of the study area. American Creek (a 3rd order stream) enters the site from the north of Cordeaux Road, flowing east, where it exits the subject site on the eastern boundary. American Creek joins with the unnamed 2nd order stream in the eastern section of the study area.

Most of the study area consists of cleared land 'pasture grassland' and 'weeds'. Native vegetation is present along the southern boundary of the study area in a low – moderate condition. A strip of regrowth vegetation runs from the north of the study area (opposite Cordeaux Heights train station) to within 50 m of the study areas southern boundary, then in a westerly direction. This strip of vegetation contains the most intact area of regrowth in the study area, with establishing canopy species, including *Eucalyptus tereticornis* (Red Gum) and *Eucalyptus quadrangulata* (White-topped Box). The midstorey is mostly dominated by woody weeds, including *Lantana camara** (Lantana) and *Solanum mauritianum**. Several areas of *Acacia* regrowth occur through the study area, which tend to lack a native midstorey and overstorey species.

The VMP subject site is restricted to the riparian buffers of all mapped watercourses in the study area (**Figure 1.2**). The riparian buffer widths are based on the Strahler System of ordering watercourses in accordance with the specifications outlined by the NSW DPI Water. The stream order and riparian corridor widths required by DPI (2012) for the watercourses in the study area include:

- 1st order stream – 10 m each side of the watercourse
- 2nd order stream – 20 m each side of the watercourse
- 3rd order stream – 30 m each side of the watercourse

The western portion of the 2nd order watercourse contains a high cover and abundance of *Lantana camara**, with occasional *Acacia* spp. regrowth and a low – moderate cover of native groundcover species. The eastern portion of the 2nd order watercourse is heavily cleared and grazed, thus contains few native midstorey or overstorey species. The two 1st order streams that join the 2nd order stream are sparsely vegetated with *Melaleuca styphelioides* (Prickly-leaved Tea Tree) and *Acacia* spp. regrowth. The south eastern portion of American Creek contains a reasonable assemblage of midstorey and overstorey species, including several regenerating *E. saligna* x *botryoides.* The groundlayer includes an assemblage of native grasses, forbs and sedges, including *Carex longebrachiata* and *Microlaena stipoides* var. *stipoides* (Weeping Grass). However, this patch also contains a high cover and abundance of herbaceous weeds, including *Ageratina adenophora** (Crofton Weed), *Gomphocarpus fruticosus** (Narrow-leaved Cotton Bush) and *Senecio madagascariensis** (Fireweed).

Restoration of the VMP subject site will require substantial intervention, including fencing, revegetation and ongoing maintenance works. Cleared areas of the site have minimal resilience, thus will require ongoing maintenance, particularly in the first 5 years, to ensure the successful establishment of planted native vegetation and reduction of herbaceous weeds and exotic grasses (see **Section 2.2.3**).

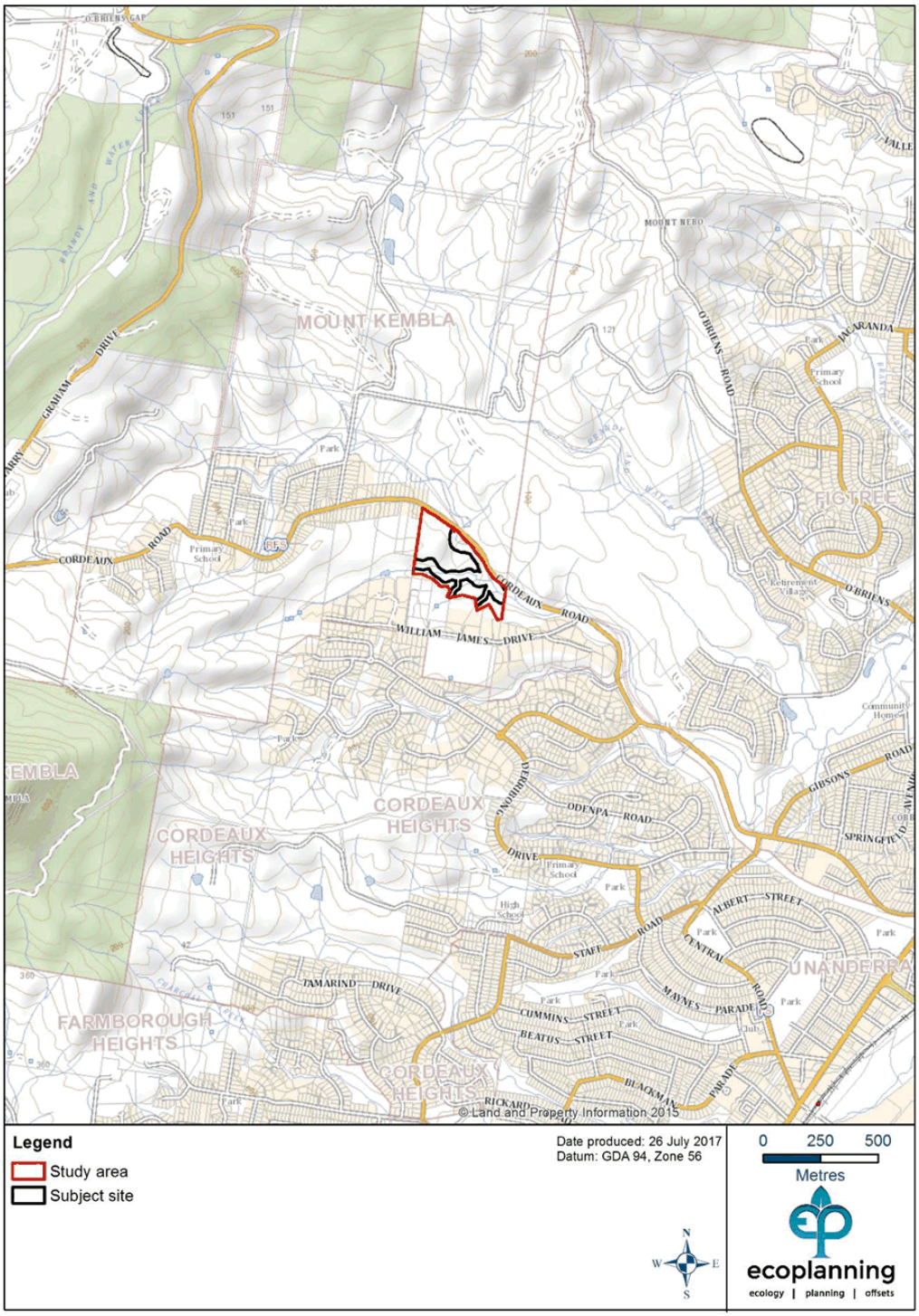

Figure 1.3: Locality of the study area and VMP subject site depicting surrounding suburbs and landscape features.

2. Site assessment

2.1 Methods

An assessment of ecological constraints for the site by Ecoplanning (2017) was reviewed prior to field survey.

A field survey was undertaken on 26 May 2017 by Thomas Hickman (Ecologist, Ecoplanning). The study area and subject site were traversed by foot on either side of the unnamed creek. The weather conditions on the day were cool – warm with clear skies (**Table 2.1**).

Table 2.1. Daily weather observation at Albion Park (Wollongong Airport)– station 068241 (15km north-east of the development site)

Date	Temp (°C)		Rainfall (mm)[1]	Max wind	
	Min	Max		Direction	Speed (km/h)
26/05/17	5.7°C	20.8°C	0 [1]	SSE	24

The field assessment aimed to determine the overall resilience of the subject site, thus its capacity to respond to regeneration works. Appropriate management methods were considered, with the aim of identifying areas of the site requiring revegetation, as opposed to assisted natural regeneration. The site was surveyed to determine the problematic exotic species onsite, and aimed to identify all priority weeds and Weeds of National Significance (WoNS). During the survey, appropriate weed control techniques were considered, for the dominant exotic species onsite. All vegetation patches were assessed to determine their location and extent, and to confirm their structure and floristics.

2.2 Results

2.2.1 Plant communities

Ecoplanning (2017) confirmed the presence of Moist Box-Red Gum Foothills Forest (MU13), Acacia scrub and Weeds and Exotics on site (**Figure 2.1**).

2.2.2 Moist Box-Red Gum Foothills Forest (MU13)

As a result of extensive clearing, underscrubbing and grazing, only a few small patches of vegetation discernible as Moist Box-Red Gum Foothills Forest (MU13) had been mapped in the study area. Two distinct patches had been mapped in the south east of the study area, with additional patches in the north west of the study area, which were dispersed amongst Weeds (MU56c) and *Acacia* Scrub (MU56a). This community was the only mapped native vegetation community in the subject site, and occurred as moderately intact areas of vegetation in a stage of regrowth.

The dominant canopy species in the study area were *E. quadrangulata*, *E. saligna* x *botryoides* and *E. tereticornis*, of which few mature – over mature species were present. A mature *E. quadrangulata* located in the study area had developed multiple hollows and was one of the larger canopy species onsite. More intact areas of the site contained a native midstorey of species, including *Alphitonia excelsa* (Red Ash), *Elaeodendron australe var. australe,*

Exocarpos cupressiformis (Cherry Ballart), *Melaleuca styphelioides*, *Myrsine variabilis, Pittosporum multiflorum* (Orange Thorn) and *Pittosporum undulatum* (Sweet Pittosporum). Native groundcovers and grasses were present, particularly where the native canopy and midstorey had established. These species included, *Carex longebrachiata*, *Microlaena* stipoides var. *stipoides* and *Pellaea falcata* (Sickle Fern).

Exotic species had become established across 70 – 80% of the areas mapped as Moist Box-Red Gum Foothills Forest (MU13). Woody and herbaceous weeds were the most abundant weeds, particularly the species *Ageratina adenophora*, Ageratina riparia, Erythrina x sykesii ** (Coral Tree), *Lantana camara*, Senecio madagascariensis* (Fireweed), *Senna pendula* var. *glabrata** and *Solanum mauritianum**. *Lantana camara** was the most abundant weed issue on site and will require a substantial amount of primary and secondary work (**Figure 3.3** and **Figure** 3.4). Exotic vines species occurred through the mapped MU13, including *Araujia sericifera** (Moth Vine), *Delairea odorata** (Cape Ivy) and *Ipomoea indica** (Morning Glory).

2.2.3 Site resilience

Field assessment determined that a majority of the VMP subject site had a low capacity for natural regeneration to occur. The riparian buffers in the site were heavily degraded from past and current land use, including vegetation clearing and intensive grazing (**Figure 2.2**). These areas will require substantial intervention for restoration to be successful, including, revegetation, cattle proof fencing and ongoing maintenance works. The southern portions of the two 1st order streams contained a small amount of native vegetation including a patch of Moist Box Red-Gum Foothills Forest along the eastern 1st order watercourse. The 1st order watercourses were otherwise dominated by woody weeds and vegetation indicative of a disturbed landscape, such as *Acacia* spp. regrowth.

The south eastern portion of American Creek retained a somewhat intact assemblage of native midstorey and canopy species and was one of the more intact patches of vegetation in the subject site. An area of regenerating Moist Box Red-Gum Foothills Forest (MU13), included a stand of early mature *E. saligna* x *botyroides* on the southern slope of American Creek (**Figure** 2.3). A large *E. saligna* x *botryoides* was located along the southern bank, as well as several mesic midstorey species, such as *Alphitonia excelsa* (Red Ash). Several additional patches of vegetation mapped as Moist Box Red-Gum Foothills Forest occurred within the VMP subject site, such as in the north west of the study area.

The western portion of the unnamed 2nd order watercourse contained a reasonably intact area of vegetation, which was otherwise surrounded by woody weeds and *Acacia* regrowth. Revegetation of midstorey and canopy species will likely be necessary in this section of the subject site. Although, can occur at relatively low densities. Ample time should be allowed to determine the potential for areas of the site to regenerate naturally, prior to revegetation in more resilient areas of the site.

Figure 2.1: Vegetation within the study area (Ecoplanning 2017).

Figure 2.2: Pasture grassland looking toward the north west of the study area and the 2nd order watercourse.

Figure 2.3: Regenerating patch of Moist Box Foothills Forest (MU13) in the east of the study area.

Flora species

A total of 74 flora species were identified within the study area, of which 35 are exotic and 39 are native species (**Appendix A**). Four weeds listed under the NSW *Biosecurity Act 2015* in accordance with the Wollongong LGA are known within the study area (**Table 2.2**). All four of these species are Weeds of National Significance WoNS.

Table 2.2. Priority weeds and Weeds of National Significance (WoNS).

Common name	Scientific name	WoNS	Duty
Blackberry	*Rubus fruticosus* species agg.	Y	**Mandatory Measure** *Must not be imported into the State or sold* All species in the *Rubus fruticosus* species aggregate have this requirement, except for the varietals Black Satin, Chealem, Chester Thornless, Loch Ness, Murrindindi, Silvan, Smooth Stem and Thornfree.
Ground Asparagus	*Asparagus aethiopicus*	Y	**Mandatory Measure** *Must not be imported into the State or sold* **Regional Recommended Measure** Land managers should mitigate the risk of new weeds being introduced to their land
Fireweed	*Senecio madagascariensis*	Y	
Lantana	*Lantana camara*	Y	

No threatened flora species listed under the *Threatened Species Conservation Act 1995* (TSC Act) or *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) were recorded in the study area or subject site.

3. VMP weed management and revegetation

Vegetation management works outlined below should be implemented for the subject site. Weed management should begin prior to subdivision of the study area. A suitably qualified and experienced bush regeneration contractor as per **Section 4.3** must be engaged to carry out vegetation management works.

3.1 Preliminary Works

Seed collection

Seed collection will be required to ensure indigenous species are available for revegetation works; species identified for revegetation are outlined in **Appendix B**. All plantings should be of local provenance, collected from adjacent patches of vegetation. However, nurseries that supply indigenous seedling stock, (not horticultural varieties), may also be used to supplement the plantings.

Seed collection zones can extend within a radius of 3 km for groundcover, shrubs and trees and up to 10 km for grasses. The collection site should reflect the natural conditions that exist for the area being regenerated.

Record keeping of seed collection and planting locations is to be as per the Flora Bank guidelines (Mortlock 2000), the bush regeneration contractor is responsible for recording this information. A Section 132C licence under the NSW *National Parks and Wildlife Act 1974* will be required to undertake seed collection works.

Fencing

Stock proof fencing should be installed around the perimeter of the VMP subject site. An indicative location for the fence is displayed in **Figure 3.1**. Given that the perimeter of the subject site bends and curves it may be necessary to include additional areas of pasture within the fenced areas of the site to create a straight fence line. These additional areas will not technically be part of the VMP subject site, thus will not require revegetation. However, occasional spot spraying could be conducted to prevent the spread of grasses and herbaceous weeds into the subject site. A costing has been provided for the installation of stock proof fencing for the perimeter of the VMP subject site (approximately 1500 m) (see **Table 3.2**).

Signage

Signage in accordance with WCC standardised signs for conservation areas will be installed at select locations along the perimeter of the subject site.

3.2 Weed Management Techniques

Weed management will be carried out using primary and secondary weed control followed by ongoing maintenance. Weed control will include mechanical removal techniques, herbicide application and natural shading techniques. Disturbance of the soil during the weed management process should be minimised at all times (see Buchanan 2000, Bradley 2002). Weed control objectives and treatment techniques are outlined below (**Appendix C**) in accordance with weed type.

Primary Weed Control

Primary weed control is the initial removal of weed species. Mechanical removal techniques relevant to the weed being removed (Buchanan 2000; Bradley 2002; DPI 2015) should be used for all woody weeds and herbaceous plants. Herbicide application, such as backpack spraying should be avoided where off target loss of native species is likely to occur.

Secondary Weed Control

Secondary weed control involves follow-up weed control to remove seedlings that have emerged after primary control and treatment of any existing plants that reshoot. Any new weed infestation areas identified must also be treated.

Maintenance

Maintenance is the long-term management of a site to prevent weeds from becoming re-established after primary and secondary work. Substantial effort should be focussed on reducing the weed seed bank, eradicating problematic weeds and supporting the growth of native vegetation. Areas of high resilience should be the focus of intensive maintenance works, which will include fine hand weeding. A structured maintenance regime following primary and secondary work will reduce the time taken for the site to reach a reasonable level of stability.

Weed Disposal

All seeding herbaceous/grass material and tubers should be bagged, removed from site and disposed of at an appropriate green waste facility. Woody weeds, such as *Lantana. camara**, *Solanum mauritianum** and *Senna pendula* var. *glabrata** should be removed offsite, given the relatively small size of the site, its potential to flood and the large volume of *L. camara** in some areas of the site. Small piles of woody weeds may be stored onsite for fauna habitat, however should not be located within the flooding extent of the watercourses.

Figure 3.1: Indicative location for the installation of stock proof fencing.

3.3 Vegetation Management Zones

The VMP subject site has been categorised into three management zones, based on the different management actions required to restore the vegetation onsite (**Figure 3.7** and **Appendix C**).

3.3.1 Management Zone 1 – Reconstruction through revegetation

This zone encompasses the cleared areas of the VMP subject site, which constitutes 2.17 ha or approximately 62.36% of the site (**Figure 3.2**). No established canopy or midstorey species are located within the zone, which consists predominantly of exotic grasses and herbaceous weeds. Therefore, the management of this zone will be achieved by revegetation, which aim of reconstructing the native vegetation community Moist Box-Red Gum Foothills Forest (MU13). This zone should be revegetated with a combination of native midstorey and overstorey species based on the planting densities outlined in **Section 3.4**. Preparation prior to planting will include the establishment of 50cm diameter weed free zones, where native tubestock will be installed. This will be achieved through the use of herbicides, such as Roundup Biactive® at a solution suitable for the target species, which may include rates of up to 2% Roundup Biactive® if treating species that are difficult to eradicate, such as *Cynodon dactylon** (Couch). The establishment of native canopy and midstorey vegetation will be ensured through regular spot spraying and hand weeding in proximity of the plantings.

The spread of native groundlayer species, such as *Carex longebrachiata* will be facilitated through the MZ, with all extant individuals to be hand weeded and carefully spot sprayed around. All herbaceous weeds through the zone, including *Senecio madagascariensis**, *Cirsium vulgare** (Spear Thistle), *Gomphocarpus fruticosus** and *Ageratina adenophora** will be regularly managed using a combination of spot spraying and hand weeding around native species. The use of a broadleaf herbicide (i.e. Starane Advanced) will suppress herbaceous weed growth, whilst retaining exotic grass cover, where it is providing stability for the bank and floodplain, particularly along the 2nd and 3rd order watercourses. Exotic grasses should gradually be suppressed as the native midstorey and canopy become established and native groundlayer species are consolidated.

3.3.2 Management Zone 2 – Assisted natural regeneration and revegetation

This management zone includes areas of the subject site consisting of 'weeds' and '*Acacia* scrub' and is mostly confined to the western portion of the 2nd order watercourse and the southern portions of the 1st order watercourses (**Figure 3.3** and **Figure 3.4**). The management zone has a dense midstorey of woody and herbaceous weeds, including *Lantana* camara*, *Solanum mauritianum** and *Ageratina adenophora** with sections containing regrowth of *Acacia* spp., such as *Acacia maidenii* (Maiden's Wattle). Management of this zone will initially require the primary removal of all woody weeds. Treatment of woody weeds, such as *Lantana camara** will be achieved by cutting and painting the stems at ground level with neat Roundup Biactive®. Smaller individuals should be hand removed, only if minimal soil disturbance will occur. These works should occur concurrently with planting preparation and revegetation in MZ1.

The recruitment and establishment of native species will be facilitated through the zone for one – two years following primary and secondary works. This will allow sufficient time to determine the resilience of the zone, prior to installing additional plants to increase the cover, abundance and richness of native flora species. Site inspection determined that this zone has a low – moderate potential for natural regeneration, given that the zone contains a heavy cover of *Lantana camara**. However, native midstorey species are located sporadically through the zone, which is also proximal and downslope of establishing *E. quadrangulata* and *E. tereticornis,*

which may disperse their seed into the MZ. Native groundlayer species, such as *Pellaea falcata*, *Geranium homeanum* and *Oplismenus imbecillis* (Creeping Beard Grass) are located through the zone. These species will respond well to the removal of woody weeds, although it is uncertain to what extent. As such, the installation of native canopy, shrub and groundcover will be necessary, and has been scheduled for mid-way through year two.

Spraying should generally be avoided through the MZ, given that there are native species in the groundlayer that would be adversely impacted. However, it may be necessary to implement a spray regime in the degraded areas of the MZ where native species are absent. This will likely be of most relevance following the removal of woody weeds, which is likely to promote the growth of annual herbaceous weeds and exotic grasses. Herbaceous weeds should be treated prior to seeding, which will assist in reducing the weed seed bank. The use of spraying will be gradually reduced, with hand weeding becoming the dominant treatment method as the abundance and cover of exotic species is reduced.

Exotic vines and scramblers, including *Delairea odorata** (Cape Ivy) and *Araujia* sericifera* (Moth Vine) occur sporadically through the MZ. These species should be targeted intensively during primary and secondary weed treatments. *Araujia sericifera** will be treated using a combination of scrape and painting with neat Roundup Biactive®, whereas *Delairea odorata** should be hand removed and carefully spot sprayed with a 1% Roundup Biactive® solution, where possible without resulting in off target damage to native species.

3.3.3 Management Zone 3 – Assisted natural regeneration

This management zone includes sections of the site mapped as Moist Box-Red Gum Foothills Forest (MU13). Several patches of this community occur within the VMP subject site, however, the largest patches are where American Creek enters the sites northern boundary, and where it exits on its south eastern perimeter (**Figure 3.5**). Patches of the MZ are also mapped in the southern portions of the 1st order watercourse and in the west of the study area. Management of this zone will consist of primary, secondary and maintenance works, however unlike MZ1 and 2, it will not require revegetation, as restoration can mostly be achieved utilising the zones capacity to naturally regenerate.

Primary and secondary work will consist of the removal of woody weeds and herbaceous weeds, including *Lantana camara** and *Ageratina adenophora**, which are well established through the MZ. The portion of the MZ in the south east the subject site consists of a moderately intact area of vegetation with establishing *E. saligna* x *botryoides* (**Figure 3.6**). The groundlayer in this area is quite diverse, although may possibly benefit from the installation of native midstorey species in the future. This MZ contains the most resilient patches of native vegetation in the subject site. As such, restoration works in the earlier part of the management should focus on stabilising this area. This will assist in creating weed free areas of the VMP subject site, where future restoration efforts can be expanded out from.

Figure 3.2: Looking in a north westerly direction towards the 2nd order watercourse in MZ1.

Figure 3.3: A 1st order watercourse in MZ2, consisting of *Acacia* scrub dominated by *Lantana camara** and *Ageratina adenophora**.

Figure 3.4: Taken in the west of MZ2 along the 2nd order watercourse, depicting a *Lantana camara dominated midstorey.**

Figure 3.5: Looking in a westerly direction up American Creek in MZ3.

Figure 3.6: Looking in a northerly direction above MZ3 with American Creek located below the regenerating MU13.

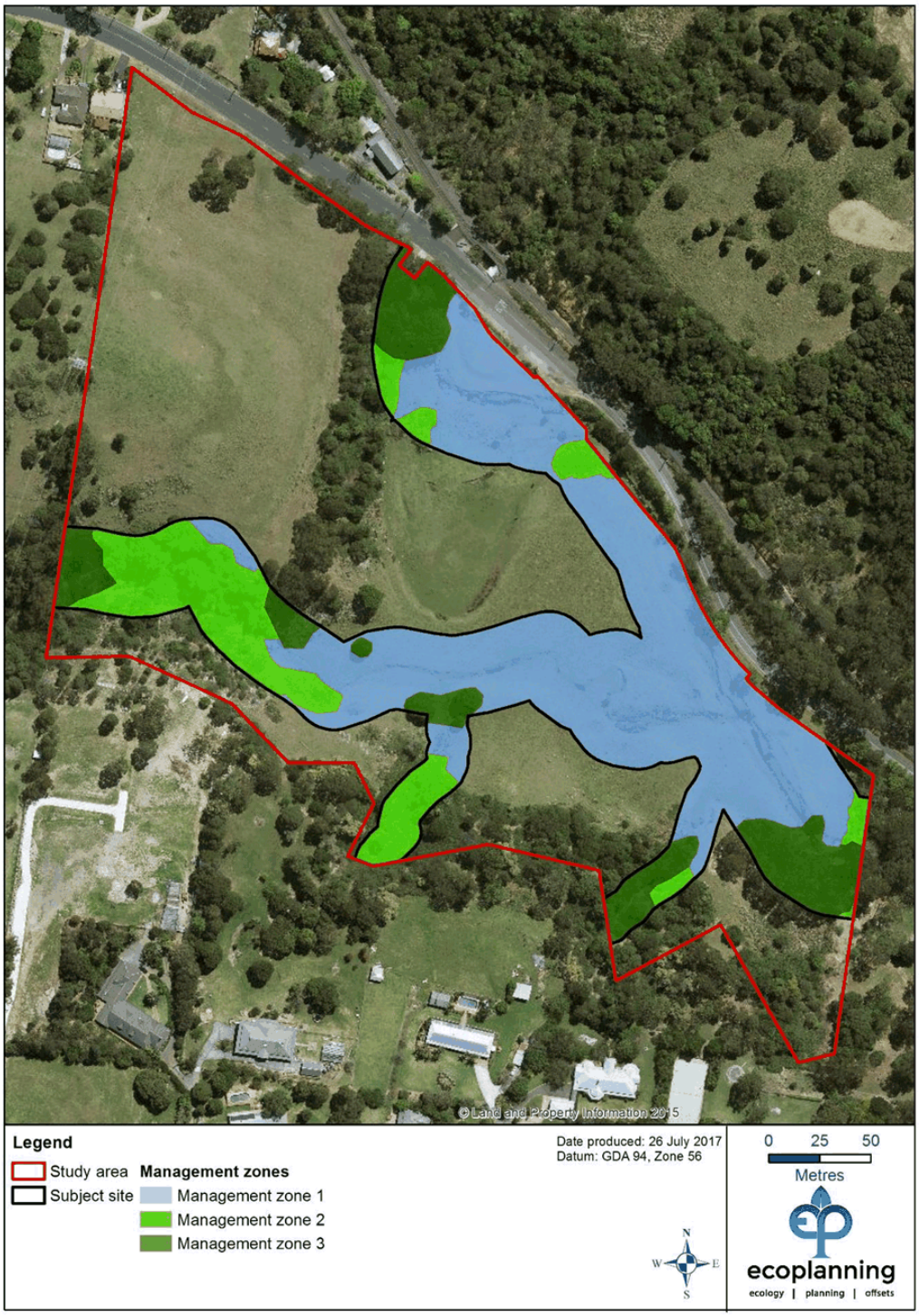

Figure 3.7: Management zones within the VMP subject site.

3.4 Revegetation

Revegetation of MZ1 and MZ2 will be necessary to achieve a reasonable restoration outcome. The densities and timing of revegetation will depend on the level of degradation in each of the MZs, thus its capacity to respond to assisted natural regeneration. Infill planting will be conducted in MZs with a reasonable potential to regenerate naturally (i.e. MZ2), whereas denser planting will be necessary in the heavily cleared areas of the site (i.e. MZ1).

3.4.1 Staging and logic

Management zone 1

This MZ consists of cleared land with a long disturbance history, thus reconstruction of the vegetation will be necessary. This will be achieved by installing midstorey and canopy species mid-way through the first year of the contract. Areas of 50 cm diameter will be sprayed throughout the MZ to reflect the advised planting densities for midstorey and canopy species (see **Section 3.4.2**). The removal of all exotic pasture grasses should avoided until the planted midstorey and canopy species are sufficiently established. The installation of groundlayer species has not been considered for this zone, as the main aim of the VMP in this MZ is to improve the structural connectivity in the canopy and midstorey stratums Supplementary revegetation should be conducted if more than 10% attenuation occurs and will be conducted mid-way through year 3.

Management zone 2

Native canopy and midstorey species will be installed into the MZ following the completion of primary works, whilst allowing ample time to determine whether natural recruitment is likely. All primary work on woody weeds, including *Lantana camara** will have been removed prior to revegetation. As such, revegetation will be conducted mid-way through year two, approximately 6 months – one year after the completion of primary woody weed removal. This will allow enough time to determine where revegetation will need to occur at lower or higher densities, given the recruitment of native midstorey and canopy species. Supplementary revegetation should be conducted if more than 10% attenuation occurs and will be conducted mid-way through year three.

Management zone 3

This zone requires minimal revegetation, as it contains an established, or establishing *Eucalyptus* spp. overstorey, as well as a reasonably intact native groundlayer. It is possible following restoration works that the native midstorey develops in this vegetation zone, which currently contains a less species rich midstorey than typical of Moist Box-Red. Planting densities are advised below for midstorey species should this zone require supplementary planting. In the case that is not necessary these plants could be utilised in other areas of the subject site, particularly where natural attenuation has occurred. Revegetation of this zone is a low priority, and should be scheduled for mid-way through the 3rd year of the contract. Given that native midstorey species will likely self-recruit following restoration work, infill planting to account for a %10 natural attenuation rate was not seen as necessary.

3.4.2 Planting densities and species

Plantings will be installed at a density resembling the vegetation community Moist Box-Red Gum Foothills Forest (MU13) in an 'unmodified' condition. The native species used for revegetation should be consistent with the planting palette provided (**Appendix B**), with the aim of reconstructing the floristics of the site to be representative of Moist Box-Red Gum Foothills

Forest (MU13) (see NSW NPWS 2002 for list of representative species). Planting densities have been determined for each MZ based on site condition and flooding capacity of the study area, and guided by the Wollongong LGA DCP (Chapter E23), as follows:

Management Zone 1:

- 1 shrub species per 5 m^2
- 1 canopy per 20 m^2

Management Zone 2:

- 1 shrub species per 5 m^2
- 1 canopy per 10 m^2
- 1 groundcover (grass, fern, forb or sedge) at a density of 1 per 5 m^2

Management Zone 3:

- 1 shrub species per 5 m^2

Table 3.1. Planting density table for revegetation works.

Zone	Area (ha)	No. of plants			Zone total
		G	S	C	
1	2.17 ha	-	4,340	2,170	6,510
2	0.7 ha	700	1,400	1,400	3,500
3	0.61 ha	-	1,220	-	1,220

G = groundcover, S = shrubs and C= canopy.

3.4.3 Equipment, installation and timing

Plantings should be planned for late winter leading up to spring when regular rainfall is naturally occurring and growth conditions are ideal. Planting of tube-stock (tree and shrub species) and Hiko or Viro cells (grasses and other groundcover species) will be favoured over broad scale seed application, such as direct seeding or brush matting.

A water retaining and fertilising product (e.g. Terraform™) should be applied to each hole, to assist in the establishment of the plants. Each plant should be sufficiently watered on the same day as installation and regular watering should continue *in lieu* of rainfall for a period of 6 weeks, or until plantings have taken. The bush regenerator should oversee and assist with watering.

3.5 Concurrent Works

Vegetation management works will be carried out concurrently with civil construction works, therefore, planning between the bush regeneration contractor and civil works supervisor must be undertaken.

The civil works team will install environmental management controls across the site including exclusion zone fencing and erosion and sediment control. It is the responsibility of the bush regeneration contractor not to damage these controls and if any damage is observed or inadvertently caused it must be notified to the civil works supervisor immediately.

3.6 Maintenance

The maintenance phase must continue for 4 years, following 1 year of primary and secondary works. Regular inspections of site condition will be conducted, including general site monitoring for potential new infestation areas and subsequent weed control of any identified weed species. Inspections and site monitoring must occur every 3 months during winter and autumn and every 1-month during summer and spring. This schedule could be revised depending on performance criteria recorded.

Weed maintenance works will include:

- Removal of all exotic species prior to establishment and seeding
- Spot spraying of exotic grasses and herbaceous weed through MZ1
- Maintaining woody weeds and exotic vines at low levels

Re-vegetation maintenance works will include:

- Replacement of poorly growing or diseased individuals consistent with the prescribed planting
- Management of insect damage, if necessary
- Watering during dry periods
- Augmenting past planting areas where attenuation has occurred

Additional maintenance tasks will include:

- Repairs to the cattle proof fencing along the sites perimeter.

3.7 Cost of implementation

The costing for the VMP has been calculated over a five-year period and is estimated at a total of $100,878 (**Table 3.2**), including the cost of monthly and annual reporting. This figure reflects a first year cost of $32,375, second year costs of $21,400, third year costs of $16,903, fourth year costs of $9,600 and fifth year costs of $9,600. Monthly and annual reporting costs over the five year period add up to a total of $11,000. The costs have been calculated based on the employment of trained bush regenerators at a rate of $400 pp/day ($50 pp/hr for an 8 hour working day), which covers crew and supervisor wages, equipment, herbicides, and all other associated business costs.

The costing indicates how many crew members are required to attend monthly visits over the three year contract, based on the size of the site, extent of weed infestation and expected timeframes for the completion of primary, secondary works and initiation of maintenance works. The costs are indicative of commercial bush regeneration charge out rates, and some variation is excepted depending on the bush regeneration company used and their associated charge out rates.

Plantings

Additional plantings may be required to augment previous plantings if some are lost to natural attenuation. The cost of revegetation was based on $2.50 per plant, including purchasing and installation costs. Supplementary plantings have been calculated based on a 10% attenuation rate from original installation numbers.

Table 3.2: Cost of VMP implementation over the three year contract period.

Timing	Task	Cost
Year 1	Primary and secondary weed control based on the cost of employing a team of 3 bush regenerators at $400 ($50 per hour for 8 hours) pp/day to attend site monthly.	$14,400
Initiation of contract	Installation of stock proof fencing based on an installation cost of $10 per lineal meter. A total of 1,700 lineal metres of fencing is required to fence the perimeter of the site, as displayed in **Figure 3.1**. Note: The proposed fence line is indicative and can be slightly altered, so long as it is functional and prevents cattle from entering the riparian buffers.	$17,000
Mid-way through year 1.	Revegetation of MZ1 with a total of 6,510 midstorey and canopy plants (see **Table 3.1**) at $2.50 per plant.	$16,275
	Year 1 total	***$32,375***
Year 2	Maintenance weed control throughout based on the cost of employing a team of 3 bush regenerators at $400 ($50 per hour for 8 hours) pp/day monthly.	$14,400
Mid-way through year 2	Revegetation of M2 with a total of 3,500 plants (see **Table 3.1**) at $2.50 per plant.	$7,000
	Year 2 total	***$21,400***
Year 3	Maintenance weed control based on the cost of employing a team of 3 bush regenerators at $400 pp/day on a monthly basis.	$14,400
Mid-way through year 3	Revegetation of MZ1 based on a ~10% attenuation of the initial plantings (~651 plants) at $2.50 per plant.	$1,628
Mid-way through year 3	Revegetation of MZ2 based on a ~10% attenuation of the initial plantings (~350 plants) at $2.50 per plant.	$875
	Year 3 total	***$16,903***
Year 4	Maintenance weed control based on the cost of employing a team of 2 bush regenerators at $400 pp/day on a monthly basis.	$9,600
	Year 4 total	***$9,600***
Year 5	Maintenance weed control based on the cost of employing a team of 2 bush regenerators at $400 pp/day on a monthly basis.	$9,600
	Year 5 total	***$9,600***
Monthly	Cost of monthly reporting over the 5 year contract period. Report should consist of a one - two page report detailing the works conducting onsite ($100 per month).	$6,000
Annually	Annual report detailing all works conducted onsite, weed treatment methods, planting success and failures etc. ($1,000 annually)	$5,000
	Reporting costs total	***$11,000***
Grand Total		***$100,878***

4. Performance criteria and Monitoring

4.1 Performance criteria

The progress and compliance with the VMP will be monitored and reviewed annually. This process will involve the bush regeneration contractor and land manager. The performance criteria listed in **Table 4.1** below are considered to be best practice and are not linked with any specific legislation. The bush regeneration contractor, in consultation with Wollongong City Council can adapt these criteria as required in response to the success of restoration works. Based on the success of the management works, further performance criteria may need to be developed for the maintenance phase.

Table 4.1. Revegetation performance monitoring criteria.

Treatment Zones	Year 1	Year 2	Year 3	Year 4	Year 5
All Zones	Commencement of all tasks outlined in the VMP or evidence of planning for their implementation.				
	A demonstrated increase in native cover and diversity and a demonstrated decrease in exotic species cover and diversity by the end of the 3rd year.				
	A minimum of 90% survival rate of all revegetation.				
	A visible improvement of soil stability along the riparian zone.				
	An 80% reduction in exotic vine cover.	An 80-95% reduction in exotic vine cover.	Exotic vines maintained at <5% cover.	Exotic vines maintained at <5% cover.	No exotic vines >5 cm in length with low abundance and cover (<5%) throughout the site.
	A 50% reduction in herbaceous weeds and exotic grass cover.	A 50-70% reduction in herbaceous weeds and exotic grass cover.	A 70-90% reduction in herbaceous weeds and exotic grass cover.	Herbaceous weeds and exotic grasses maintained at <5% cover.	Herbaceous weeds and exotic grasses maintained at <5% cover.
	An 80% reduction in woody weed cover.	Woody weeds retained at low levels (<5% cover).	Woody weeds retained at low levels (<5% cover).	Woody weeds retained at low levels (<5% cover).	No woody weeds >10 cm in height remaining, with low cover (<5%) and abundance throughout the site.

4.2 Monitoring reports

The bush regeneration contractor and the land manager will monitor the vegetation for changes over time. The objective of the monitoring and reporting program is to record changes to the vegetation as a result of vegetation management works. Monitoring works will require liaison with the land manager, the bush regeneration contractor and Wollongong Council.

Monthly monitoring and reporting must be documented and compiled into an annual report to determine the effectiveness of the works undertaken. Site conditions should be recorded on the work plan template at the beginning and end of on-ground works. This data should be included in the annual report. Monitoring photo points should be established at 3 permanent reference points.

An example report is detailed in **Table 4.2**, the report should include:

- Works carried out, including weed species targeted and their location;
- An approximation of the time spent on each task;
- Any observations, such as the occurrence of new weed species;
- Rates of regeneration of native species;
- A description of any problems encountered and how they were overcome;
- A summary of how the site-specific objectives have been met (or not);
- Herbicide and other chemicals used, including quantity, dilution rate and other relevant information;
- Weed control mechanisms used during the period;
- Climatic conditions which may have influenced weed germination and growth;
- Performance criteria and success; and
- If required, maps of weed distribution and density.

4.3 Bush regeneration contractors

Suitably qualified and experienced bush regeneration contractors that are members of the Australian Association of Bush Regenerators or fulfil the membership criteria must undertake all vegetation management works. In addition to this, team leaders should hold a Certificate III in Conservation & Land Management or possess equivalent field experience and certification. The contractor should carry out best practice bush regeneration techniques as described by Buchanan (2009).

Table 4.2. Example monitoring report template.

Date			
Name of Contractor:			
Hours worked on site since last monitoring report:			
Site Condition:	Zone		
	Weed cover %		
	Seedling survival %		
	Planting numbers		
	Herbicide used (in Litres)		
	Other		
Describe relevant weed management techniques:			
Describe problems; e.g. weed invasions, damage to planted material, etc.:			
Photographic evidence:			
Planned work before next monitoring report:			

5. References

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Appendix A: Flora inventory

Table A1 – Flora species recorded during site visit

Family Name	Scientific Name	Common Name	Native/Exotic
Apiaceae	*Centella asiatica*	Indian Pennywort	Native
Apocynaceae	*Araujia sericifera*	Moth Vine	Exotic
Apocynaceae	*Gomphocarpus fruticosus*	Narrow-leafed Cotton Bush	Exotic
Asparagaceae	*Asparagus aethiopicus*	Asparagus Fern	Exotic
Asteraceae	*Ageratina adenophora*	Crofton Weed	Exotic
Asteraceae	*Bidens pilosa*	Cobbler's Peg	Exotic
Asteraceae	*Cirsium vulgare*	Spear Thistle	Exotic
Asteraceae	*Conyza* sp.	Fleabane	Exotic
Asteraceae	*Hypochaeris radicata*	Catsear	Exotic
Asteraceae	*Senecio madagascariensis*	Fireweed	Exotic
Asteraceae	*Sigesbeckia orientalis*		Native
Bignoniaceae	*Jacaranda mimosifolia*	Jacaranda	Exotic
Bignoniaceae	*Pandorea pandorana*	Wonga Wonga Vine	Native
Blechnaceae	*Doodia aspera*		Native
Caesalpiniaceous	*Senna pendula var. glabrata*	Cassia	Exotic
Celastraceae	*Elaeodendron australe var. australe*		Native
Convolvulaceae	*Dichondra repens*	Kidney Weed	Native
Convolvulaceae	*Ipomea indica*	Morning Glory	Exotic
Cyperaceae	*Carex longebrachiata*		Native
Dennstaedtiaceae	*Pteridium esculentum*	Bracken	Native
Dilleniaceae	*Hibbertia scandens*	Climbing Guinea Flower	Native
Fabaceae	*Acacia binervia*	Coastal Myall	Native
Fabaceae	*Acacia maidenii*	Maiden's Wattle	Native
Fabaceae	*Acacia mearnsii*	Black Wattle	Native
Fabaceae	*Erythrina x sykesii*	Coral Tree	Exotic
Fabaceae	*Glycine clandestina*		Native
Fabaceae	*Vicia* sp.	Vetch	Exotic
Gentianaceae	*Centaurium* sp.		Exotic
Geraniaceae	*Geranium* sp.		Native
Iridaceae	*Romulea rosea*	Onion Grass	Exotic
Juncaceae	*Juncus* sp.		Native
Lauraceae	*Cinnamomum camphora*	Camphor Laurel	Exotic
Luzuriagaceae	*Geitonoplesium cymosum*	Scrambling Lily	Native
Malaceae	*Pyracantha angustifolia*	Orange Firethorn	Exotic
Malvaceae	*Sida rhombifolia*	Paddy's Lucerne	Exotic
Meliaceae	*Melia azedarach*	White Cedar	Native
Myrsinaceae	*Myrsine variabilis*		Native
Myrtaceae	*Backhousia myrtifolia*	Grey Myrtle	Native
Myrtaceae	*Eucalyptus bosistoana*	Coastal Grey Box	Native
Myrtaceae	*Eucalyptus eugenioides*	Large-leaf Stringybark	Native
Myrtaceae	*Eucalyptus quadridentate*	Coastal White Box	Native
Myrtaceae	*Eucalyptus saligna x botryoides*	Wollongong Woolybutt	Native
Myrtaceae	*Eucalyptus tereticornis*	Forest Red Gum	Native

Family Name	Scientific Name	Common Name	Native/Exotic
Myrtaceae	*Melaleuca styphelioides*	Prickly-leaved Tea Tree	Native
Oleaceae	*Ligustrum lucidum*	Large-leaved Privet	Exotic
Oleaceae	*Ligustrum sinense*	Broad-leaf Privet	Exotic
Phyllanthaceae	*Glochidion ferdinandi*	Cheese Tree	Native
Pittosporaceae	*Pittosporum multiflorum*		Native
Pittosporaceae	*Pittosporum revolutum*	Rough-fruit Pittosporum	Native
Pittosporaceae	*Pittosporum undulatum*	Sweet Pittosporum	Native
Plantaginaceae	*Plantago lanceolata*	Plantain	Exotic
Poaceae	*Axonopus fissifolius*	Carpet Grass	Exotic
Poaceae	*Briza subaristata*		Exotic
Poaceae	*Bromus catharticus*	Prairie Grass	Exotic
Poaceae	*Cynodon dactylon*	Cooch Grass	Exotic
Poaceae	*Dichelachne* sp.		Native
Poaceae	*Echinopogon ovatus*		Native
Poaceae	*Ehrharta erecta*	Panic Veldt Grass	Exotic
Poaceae	*Holcus lanatus*	Yorkshire Fog	Exotic
Poaceae	*Microlaena stipoides*	Weeping Grass	Native
Poaceae	*Paspalum dilatatum*	Paspalum	Exotic
Poaceae	*Pennisetum clandestinum*	Kikuyu	Exotic
Poaceae	*Rytidosperma racemosum*		Native
Polygonaceae	*Persicaria* sp.		Native
Rhamnaceae	*Alphitonia excelsa*	Red Ash	Native
Rosaceae	*Rubus fruticosus* spp. agg	Blackberry	Exotic
Rosaceae	*Rubus parvifolius*	Native Raspberry	Native
Santalaceae	*Exocarpos cupressiformis*	Cherry Ballart	Native
Sapindaceae	*Dodonaea viscosa* subsp. *angustifolia*		Native
Solanaceae	*Solanum mauritianum*	Wild Tobacco	Exotic
Solanaceae	*Solanum pseudocapsicum*	Jerusalem Cherry	Exotic
Urticaceae	*Urtica incisa*	Stinging Nettle	Native
Verbenaceae	*Lantana camara*	Lantana	Exotic
Verbenaceae	*Verbena officinalis*	Common Verbena	Exotic

Appendix B – Fauna species recorded during site inspection

Table B1 – Opportunistic fauna sightings (heard, visual or evidence)

Scientific name	Common name
Physignathus lesueurii	Eastern Water Dragon
Litoria fallax	Eastern Dwarf Tree Frog
Dama dama	Fallow Deer
Felis catus	Cat
Anthochaera carunculata	Red Wattlebird
Cacatua galerita	Sulphur-crested Cockatoo
Chrysococcyx lucidus	Shining Bronze-cuckoo
Corvus coronoides	Australian Raven
Cracticus torquatus	Grey Butcherbird
Dacelo novaeguineae	Laughing Kookaburra
Eolophus roseicapillus	Galah
Eopsaltria australis	Eastern Yellow Robin
Grallina cyanoleuca	Magpie Lark
Leucosarcia melanoleuca	Wonga Pigeon
Malurus cyaneus	Superb Fairy-wren
Meliphaga lewinii	Lewin's Honeyeater
Pachycephala rufiventris	Rufous Whistler
Psophodes olivaceus	Eastern Whipbird
Pycnonotus jocosus	Red-whiskered Bulbul
Rhipidura albiscapa	Grey Fantail
Rhipidura leucophrys	Willie Wagtail
Trichoglossus haematodus	Rainbow Lorikeet
Turdus merula	European Blackbird

Appendix B: Planting palette

Planting palette for the vegetation community Moist Box-Red Gum Foothills Forest, as described in the Native Vegetation of the Illawarra Escarpment and Coastal Plain (NPWS 2003).

Scientific Name	Common Name
Tree	
Alphitonia excelsa	Red Ash
Eucalyptus quadrangulata	White-topped Box
Eucalyptus saligna x botryoides	Wollongong Woollybutt
Eucalyptus tereticornis	Forest Red Gum
Small Tree	
Acmena smithii	Lilly Pilly
Elaeodendron australe var. *australe*	Red Olive Plum
Melaleuca styphelioides	Prickly-leaved Tea Tree
Melicope micrococca	Hairy-leaved Doughwood
Pittosporum undulatum	Native Daphne
Rapanea variabilis	Muttonwood
Rhodamnia rubescens	Scrub Turpentine
Streblus brunonianus	Whalebone Tree
Wilkiea huegeliana	Veiny Wilkiea
Shrub	
Backhousia myrtifolia	Grey Myrtle
Clerodendrum tomentosum	Hairy Clerodendrum
Croton verreauxii	Green Native Cascarilla
Notelaea venosa	Veined Mock-olive
Pittosporum multiflorum	Orange Thorn
Pittosporum revolutum	Wild Yellow Jasmine
Backhousia myrtifolia	Grey Myrtle
Grasses	
Entolasia marginata	Bordered Panic
Microlaena stipoides var. *stipoides*	Weeping Grass
Oplismenus imbecillis	Creeping Beard Grass
Panicum pygmaeum	Pygmy Panic
Poa labillardierei	Tussock
Fern	
Adiantum formosum	Black Stem
Asplenium flabellifolium	Necklace Fern
Doodia aspera	Prickly Rasp Fern
Doodia australis	Common Rasp Fern
Pellaea falcata	Sickle Fern
Climber	

Scientific Name	Common Name
Eustrephus latifolius	Wombat Berry
Geitonoplesium cymosum	Scrambling Lily
Marsdenia rostrata	Milk Vine
Morinda jasminoides	Sweet Morinda
Pandorea pandorana subsp. *pandorana*	Wonga Wonga Vine
Parsonsia straminea	Monkey Rope
Smilax australis	Lawyer Vine
Other	
Dichondra repens	Kidney Weed
Gymnostachys anceps	Settlers' Twine
Nyssanthes diffusa	Barbwire Weed
Pseuderanthemum variabile	Pastel Flower

Appendix C: Weed treatment methods

Zone	Objective	Main Weeds	Method	Key Performance Indicators (KPI)
All	• Control and suppress exotic grasses and herbaceous weeds.	• *Ageratina adenophora, Cenchrus clandestinus, Cynodon dactylon, Cirsium vulgare, Senecio madagascariensis* and *Verbena bonariensis.*	• Primary and secondary treatment of herbaceous weeds and exotic grasses will occur in the first year of the contract. This will include a combination of spot spraying and hand weeding, particularly in MZ2 and MZ3, where off target damage could occur to native groundcover species. • Aquatic weeds, such as *Ageratina adenophora* should be cut and painted with neat Roundup Biactive®. • Maintenance works will consist of detailed hand weeding amongst developing patches of native groundlayer species in MZ2 and MZ3 and spot spraying in MZ1. • Herbaceous weeds will be treated prior to seeding, bagged, removed from site and disposed at a licensed green waste facility.	• A 50% reduction in cover by the end of year one. • A 50-70% reduction by end of year two. • A 70-90% reduction by the end of year three. • <5% cover by the end of year four. • <5% cover by the end of year five.
	• Deseeding, skirting and eventual eradication of exotic vine species.	• *Araujia sericifera*, *Delairea odorata* and *Ipomoea indica.*	• Primary and secondary work will aim to substantially reduce exotic vine abundance and cover in the first year of the contract. Exotic vines should be treated using a combination of hand removal and scrape and painting with neat Roundup Biactive®. • Maintenance sweeps will be conducted to prevent the establishment of exotic vines species, particularly *Araujia sericifera,* which is likely to have viable seed stored in the weed seed bank.	• An 80% reduction in cover by the end of year one. • An 80-95% reduction in cover by the end of year two. • Exotic vines maintained at

Zone	Objective	Main Weeds	Method	Key Performance Indicators (KPI)
				<5% cover by the end of year 3. • No vines >5cm in length and maintained at <5% cover by end of year 5.
	• Treatment of all woody weeds.	• *Erythrina* x *sykesii, Lantana camara, Ligustrum lucidum, Ligustrum sinense, Solanum mauritianum*. and *Senna pendula var. glabrata*.	• Primary and secondary woody weed removal will be conducted in the first year of the contract. Initial works should aim to eradicate all woody weed species with a focus on MZ2 and MZ3. Stem injection should be utilised for the treatment of *Erythrina* x *sykesii* using neat Roundup Biactive®. All smaller woody weeds (i.e. *Lantana camara*, *Senna pendula* var. *glabrata* and *Solanum mauritianum*) will be treated by cut and painting with neat Roundup Biactive®. • Maintenance woody removal will consist of sweeps through the VMP subject site to prevent woody weeds from becoming re-established. Maintenance work should be conducted regularly, with a focus on removing woody weeds before reaching >50 cm, or prior to seeding. • It is recommended that all cut woody weed material is removed from site and disposed of at a licenced green waste facility. However, small habitat piles can be constructed out of woody weed material (i.e. *Lantana camara* and *Solanum mauritianum*). *Erythrina* x *sykesii* should not be retained and piled within the subject site, given the ability for offcuts to rapidly layer and re-establish.	• An 80% reduction in woody weed cover by the end of year one. • Woody weeds maintained at <5% cover by end of year 2. • No individuals >10cm remaining and maintained at <5% cover by end of year five.

369 Cordeaux Road
MT KEMBLA NSW 2526

March 9, 2018

Councillor Gordon Bradbery AM, Lord Mayor
Councillor David Brown, Deputy Lord Mayor
Councillor Cath Blakey
Councillor Tania Brown
Councillor Leigh Colacino
Councillor Chris Connor
Councillor Mithra Cox
Councillor John Dorahy
Councillor Dom Figliomeni
Councillor Janice Kershaw
Councillor Vicky King
Councillor Jenelle Rimmer
Councillor Cameron Walters

Wollongong City Council
Locked Bag 8821
Wollongong DC NSW 2500

Dear Councillors

We are writing on behalf of a number of Mount Kembla residents to advise you of our serious concerns about two recent proposals to rezone lots on Cordeaux Road:

1. Lot 100 DP 1207784 Cordeaux Road, Mount Kembla
2. 227 Cordeaux Road (Lot 100 DP 1123517) Mount Kembla

Our concerns are:

1. Both these rezoning proposals relate to properties that have changed hands over the past two years. The recent purchasers of both properties would have been aware of the constraints on development of the properties they purchased. One can only assume that their motivation for purchase was the potential of subdividing their properties to make money, despite the existing planning constraints.

2. These proposals, at least to some degree, contravene the intention of the Farmborough Heights to Mt Kembla Concept Plan endorsed by Council and the State Government in 2013/14. This plan aimed to provide certainty for the community on potential development sites and established larger lot developments such as the two, and others around them, that are the subjects of these rezoning proposals.

3. If these properties are rezoned, there will be no certainty about further developments in the same area, and within a relatively short time, the unique village character of Mt Kembla will be compromised.

4. Wollongong City Council in the 1980s promoted a long term strategy to keep Mount Kembla a village. They achieved this then by working with the community in many public meetings and directly with the developer of Cordeaux Heights subdivision. One of the conditions imposed on the Cordeaux Heights developers was that a minimum five acre lot size was maintained in certain areas of the subdivision and building envelopes designed that have provided separation from Mount Kembla allowing it to retain its village atmosphere.

5. The Concept Plan also sought to ensure the conservation and management of the environmental attributes of the foothills of the Illawarra Escarpment. It recognised the contribution that appropriately scaled and located residential development could make to conserving land of high ecological value, restoring degraded lands and providing an overall community benefit in terms of creating conservation opportunities.

Our questions for Council are:

• Is the current Council still promoting its long term strategy of protecting Mt Kembla's village atmosphere and mining heritage?

• If not, can we please learn about, and have input into, any new strategy for the future of Mt Kembla and Kembla Heights?

• If this strategy is still supported by the current Council, what is the reason for Council officers recommending these rezonings?

We ask that Councillors consider carefully the implications of these rezoning proposals on the future of Mt Kembla village, and vote against them.

Attached is a list of those residents who, in the short time available, have shared the concerns that are outlined in this letter. Past experience tells us that within the village there are many others who will support our initiative in writing to Council.

Yours respectfully,

Elizabeth Roberts
Chairperson, Mt Kembla Mining Heritage Inc.

Vivien Twyford
Convenor of 2017 Community Meeting

Cc: Mr David Farmer – General Manager
Mr Andrew Carfield – Director of Planning

SUMMARY OF SUBMISSIONS – DRAFT PLANNING PROPOSAL – LOT 100 DP 1207784 COREDEAUX ROAD, MT KEMBLA

Community

Submitter	Comment
Resident Mt Kembla	Objection: • Inconsistent with the Farmborough Heights to Mt Kembla Concept Plan. • Fail to understand how any residential development on these foothills would actually conserve and manage the environmental attributes of the foothills - supporting residential development is in direct contrast. • Allowing any further residential development would destroy the only remaining distinct historical village in the Wollongong LGA – any development that does not reserve a discrete physical and visual separation between neighbourhoods will destroy the character of the village of Mt Kembla, rendering it an extension of Cordeaux Heights and Unanderra. Council will lose its last opportunity to maintain a heritage sector to preserve the site of the most significant mining disaster in Australia – Mt Kembla is a valuable and critical historical asset to Council but this has not been considered – no heritage assessment has been made. • Planning approvals have led to inadequate and disappointing results across the city – many housing developments and in particular high density housing in the city are architecturally lacking and detracting from the character of the surrounding structures and the city as a whole – I have no confidence in your ability to limit developments to remain within their boundaries nor do I have any confidence that you will ensure any construction will be consistent with environmental and heritage concerns. Ardent supporter of good planning that sustains healthy living and community engagement. • Would be keen to understand how additional development would benefit the quality of life of those of us who currently live in Mt Kembla – increased housing on the approach to the village would render our neighbourhood less attractive with reduced vegetation surrounding us, limiting the movement of many of the native animals that live and move across the two areas under consideration. • Council has spent many millions of rate payer funds to develop the “Blue Mile” but there are equally valuable community and cultural assets, such as the village of Mt Kembla, that warrant attention in order that they retain their distinct characteristics and can be enjoyed by all residents of the city, but it seems to have been completely overlooked. • The walking and cycle pathway leading into Mt Kembla is an attribute enjoyed by many residents, particularly as it leads to green open areas and to grazing cattle in the paddocks as you enter Mt Kembla. Housing on the foothills would destroy these features. • Believe Wollongong Council has a vested interest in supporting further development as the Council will always make a financial gain and it is impossible for you to be an objective arbiter of any development submission. It appears that Council will always look favourably on these type of proposals.
Resident Mt Kembla	Writing to express concern about potential developments and subdivisions:

	• Community letter signed by almost 100 residents who object to the rezoning of rural land that would allow for subdivision. Mt Kembla is a valued locality by residents and visitors for its unique village and heritage atmosphere. Tourists enjoy scenic rural views on way to historic village and heritage listed sites. It is the open paddocks and remaining heritage cottages and buildings that make Mt Kembla an attractive tourist destination and home. • Council recently invested heavily in a shared pathway at the entrance to Mt Kembla that looks over these rural paddocks and is very well utilised and valued – to now add some modern housing on the slopes would destroy the character of this asset. • The letter Council sent in response to the community letter showed a lack of regard for the communities strong views opposing these developments - disappointing to read Council ignoring the longstanding agreements, consultations and plans they have engaged with our community over many years to preserve our unique character. • To suggest that this development would aid the rehabilitation of land by adding more houses, exotic trees and domestic predatory animals to the area is simply unbelievable. Wollongong is fast losing its open grassland habitat to extensive development at the foothills of the escarpment. This patch of open space had been set aside as a 5 acre buffer zone around Mt Kembla that achieves the following outcomes for the community: • Serves as a buffer to the encroaching Wollongong suburban sprawl • Maintains the unique historic village atmosphere of Mt Kembla as a separate locality and tourist destination and gate way to the escarpment • Maintains open grass lands essential to species biodiversity in conjunction with adjoining rainforest habitat • Provides a wildlife corridor for wildlife to move freely from the escarpment to the foothills of Mt Kembla as they have always been able to do • Maintains a much loved historic rural view being in the James family from pioneering days until recently. Urge Council to see the short sightedness of this proposal and to put value on what is a unique locality and asset to the Wollongong LGA. With the loss of the only remaining pioneer home in Mt Kembla recently along with these rezoning proposal the community is reeling at the erosion of what we've held dear and fought for for decades.
Resident Mt Kembla	• Recently moved to Mt Kembla – purchased based on unique nature of the Mt Kembla village, semi-rural feel, heritage value of village. Felt confident Council would also value the attributes that make Mt Kembla so unique. • Deeply concerned and upset at recent events in Mt Kembla as well as the current proposals for rezoning • Feel it is short sighted not to preserve the grazing paddocks when entering Mt Kembla – these paddocks set whole scene for the village and set it apart from the surrounding suburbs. To replace it with houses would mean that Mt Kembla would no longer be separate and unique • The idea that building houses would somehow help rehabilitate the land seems bizarre and contradictory

	• Mt Kembla's unique character and heritage values have great untapped tourism potential - once the village feel is lost so too will this potential • People who purchase properties purchase with the zoning stipulated and should not expect to have their properties rezoned for profit at the expense of the community • Urge Council to reject these proposals and preserve a unique part of Wollongong that once lost will not be able to be regained.
Resident Mt Kembla	• Oppose this development as it destroys the notion of a "green corridor" established in the late 1980s • Mt Kembla retains its distinct identity because there is a visual separation between the village and suburbia – any building that is placed within this space will remove the separation – there will be visual disturbance • Easy to see the ways that the planning rules and regulations can be manipulated by property owners – the "quasi" 3 story house/meeting hall at 223 Cordeaux Road – three single story residences are connected and climb the sloping block. A second example is the removal of a 100 year old tree because it was too close to a house thus conforming to Council's tree removal plan – then the house is demolished days later, one hundred and twenty five years of history gone. We have been seriously let down by the Council and the State government in this example • The property has been bought in the full knowledge of the existing planning restrictions • The community has been consulted twice for its input regarding the development of Mt Kembla – in the 1980s and more recently. The community does not want Mt Kembla to be swallowed up by the suburban sprawl. • You asked us what we thought. We told you what we thought. Will you hear us or will you let us down again?
Resident Mt Kembla	• Have written to you about the proposed rezonings – the concerns I raised in that letter were supported by 91 Mt Kembla residents all of whom are worried about the suburbs encroaching on the amenity of the village of Mt Kembla. • Sad that Council officers have recommended that these proposals be approved – since 1973 have enjoyed unique community. Fear Mt Kembla will be replaced by a suburb that uses up every inch of land for new housing. We all thought that the Mt Kembla Concept Plan drawn up 20 years ago would protect the village and create a green barrier between it and Unanderra/Cordeaux Heights – it would appear that that is not the case. Council officers have responded to all our concerns in planning speak, negating them all. • Ask that you consider what happens after these zonings are approved – several other land owners waiting to see the outcome of these rezoning applications so they get confirmation that if they invest in applications to rezone their land their investments are likely to be rewarded even though they knew when they bought the property that there were development constraints. • Thin edge of the sword – people need homes and Mt Kembla is a desirable residential area – however its very desirability may well be its undoing and be the reason for it transformation into just another Wollongong suburb • Ask you to think about the need for oases within the urban sprawl

	and the importance of not losing the few we still have.
Resident Mt Kembla	Write to express my disgust in the proposed rezoning of Mt Kembla – we have a unique heritage and it needs to be preserved and is highly cherished by residents
Resident Mt Kembla	• See change as a necessary part of the evolution of a place, however change must be to address an emerging need, not just a mercenary one. Change must improve – object when the essential qualities of Mt Kembla, the very things that make people want to live here, are being lost • Mt Kembla is a village separated from other developments by a green "buffer" at the entrance to the village and running behind the existing houses up to the fire trail – this application jeopardises that corridor. • Owner has bought the property with the full knowledge of the subdivision restrictions. If approval is given for 2 houses then it is probable that these will be further subdivided in the future. Once 2 houses are in place they could be used to support an argument that the green corridor no longer exists – it is the thin edge • Nothing has changed since the purchase of this property that would justify this development application – no new need is being addressed • Please do not compound the lack of commitment to the village evidenced by the recent demolition of a 125 year old house in the historical precinct. Mt Kembla's unique industrial history necessitates a specific development strategy that allows change without sacrificing heritage and village life. The community of Mt Kembla thought this had been done (Community Consultative Committee of the 1980s and the more recent Farmborough Hts to Mt Kembla Plan).
Resident Mt Kembla	Objection: • Clear violation of previous plan put in place to protect the individual character of the village of Mt Kembla • When William James Drive rezoning was allowed this land was to be kept as one parcel to maintain a buffer to the village – allowing this land to be subdivided is a clear violation of the trust the Mt Kembla residents put in Council that this would be maintained in perpetuity • Allowing a subdivision with lots up to 5000m² with a 30% plot ratio is outrageous – could have houses of 1500m² in size which is the size of a small factory – what is to say these lots would not be further subdivided in the future – WCC is setting a precedent • Object that developer bought this property with the current zoning, allowing further subdivision just gives that developer a windfall profit at the expense of the community – cannot see how this could be justified.
Resident Mt Kembla	• Support letter of concern dated 9 March 2018 • The proposed subdivision does not highlight the two existing properties currently using the common drive which also services the property at 227 Cordeaux Road – does the width of the proposed driveway entering off Cordeaux Road to the subdivision comply with Council rules? • The amount of traffic to possibly use the proposed driveway only increases risk of any emergency which may occur • The infrastructure is currently OK for the number of people we currently have but to start adding density to the village with the increase in traffic is not

	• People who live in the village live here because that have invested their time and money to create a village atmosphere as a neighbourhood - why must it be developed to destroy what now exists • We elect our city councillors to represent we the public interests - this development is not in the public interest
Form Letter 1: 10 Mt Kembla Resident signatures	As long term residents we are concerned about the proposed zoning changes to properties: • Feel these properties have been purchased with sole intent on developing them at substantial profit • These developments will destroy the unique character of Mount Kembla • These developments will set a precedence for future development along the fragile escarpment area
Form Letter 2: 8 Mt Kembla Resident signatures	As a resident, extremely opposed to paddocks being rezoned and subdivided for following reasons: • Reduction of green buffer around Mt Kembla erodes unique village character. Mt Kembla in one of the last distinct villages within the LGA – these subdivisions endanger it from being part of the suburban sprawl • The green open spaces are a valued community asset. The new shared pathway into Mt Kembla takes in these historic green views, people love looking across paddocks at cows and wildlife – they do not want these views interrupted by modern housing • Council going back on long standing promises to community to protect Mt Kembla from the suburban sprawl • These rezonings have potential to encourage further subdivisions in Mt Kembla • Properties were recently purchased with current zonings and restrictions in place – should not be changed for individuals seeking to profit at the expense of community concerns • More housing on the foothills of Mt Kembla can in no way be seen as contributing to the rehabilitation of environmentally sensitive areas – absurd and contradictory • Loss of wildlife corridors at the foothills of Mt Kembla – concerns of further strains on local wildlife with the induction of more housing, exotic plants and domestic animals • Loss of open grasslands impact on some animals – grasslands being reduced at an alarming rate • Council's focus and investment on the "Blue Mile" as a tourist attraction while ignoring the green spaces and heritage tourism Mt Kembla provides is short sighted and limiting the tourism growth of the LGA • As Council is a financial beneficiary of increased rates with these subdivisions can they be trusted to act on the behalf of the community
Form Letter 3: 4 Mt Kembla Resident signatures	As long term residents concerned about the proposed zoning changes: • Concerned people are buying properties at a price that reflects its "not for development zoning" and then applying to have the zoning changed to allow for development, thus making a sizable profit on their investment. Suggest these purchasers are developers, interested in profits and not concerned with maintaining Mount Kembla's unique village atmosphere • Will set precedence for future rezoning/developments and Mount

	Kembla will cease to exist as a unique village with links to our mining heritage.

State Authorities

Office of Environment and Heritage (OEH)	• Support a long term conservation outcome being achieved for the site. This would be achieved through establishing the proposed environmental corridor under an E2 Environmental Conservation zoning, as envisaged by the Farmborough Heights to Mount Kembla Concept Plan (2013). It is also consistent with the suggested biodiversity corridor outcomes espoused in ISRP 2015. A VMP should be prepared and exhibited. • The mechanism for securing and managing the environmental corridor is critical and should be resolved as part of the Planning Proposal. Dedication of the corridor to Council along with in-perpetuity management funding should be considered to ensure a long term conservation outcome. While dedication would be preferable, another funded alternative would be for community title development, with the environmental corridor and access road forming part of a community lot. Other options include a Property Vegetation Plan or Conservation Agreement. • Question the proposed minimum lot size of 5,000 m2 applying to both the E4 developable lots and E2 zoned lands. Whilst appropriate for the E4 lots, a minimum lot size of 5000m2 could lead to fragmentation and degradation of the environmental corridor and grazing land in the future. • Supportive of the proposed development layout which ensures additional vegetation clearing is not required for APZs – recommend building envelopes be identified early so that APZs can be established without the risk of native vegetation clearing. Riparian corridor buffers should be applied consistent with the Riparian Corridor Management Study (2004). • The proponent should conduct a due diligence assessment at planning proposal stage in accordance with OEH guidelines, before any ground disturbance works that may result from the proposed subdivision of this land. The due diligence process should determine whether a more detailed Aboriginal Cultural Heritage assessment is required.
NSW Rural Fire Service (RFS)	• No objection to the proposed rezoning. Future lots will be required to provide Asset Protection Zones (APZs) as per the plan in the Bushfire Assessment report prepared by Peterson Bushfire. The Vegetation Management Plan revegetation zones must be capable of achieving the required APZs, consistent with Section 9.1 Ministerial Directions and specifications set out in Planning for Bush Fire Protection 2006.
Sydney Water	• No objection. Adequate capacity in water trunk system to service the proposed development – amplifications or extensions may be required. • Limited capacity in trunk wastewater network system. Latest hydraulic model indicates there may be surcharges from the wastewater system under extreme wet weather conditions at ground levels below approximately 39 metres. A feasibility application will be required to be lodged with Sydney Water. • Lot 100 DP 1207784 is burdened by an Easement for Sewerage Purposes and Access and Drainage protecting the 250DN pressure

	main and Sewer Pump Station – this easement is not to be built over or encroached in without the consent of Sydney Water.
Roads and Maritime Services (RMS)	• No objection in principle as it is unlikely to have a significant impact on the state road network. The Planning Proposal is consistent with the endorsed Farmborough Heights to Mt Kembla Concept Plan which, in part, identifies potential for additional residential development on this site. • Council will need to be satisfied that sufficient sight lines are available/not restricted at the site's access points with Cordeaux Road.
Department of Primary Industries - Water	• No objection to the rezoning. Once rezoned appropriate protections should be included to ensure that the E2 zone is protected from future activities. It is suggested that physical structures be incorporated along the E2 zone to ensure that no hazard reduction activities to create the Asset Protection Zone (APZ) encroach into the riparian corridor.

Internal Consultation

Flooding Issues	• Development Engineering Section has no objection to the rezoning of this land for the purpose of subdividing from a stormwater and floodplain management perspective. • Any future development on the land will be subject to the requirements of Chapters E13 and E14 of Council's Wollongong DCP 2009, Clause 7.3 of the Wollongong LEP 2009 and the NSW Government's Floodplain Development Manual 2009.
Access Issues	• The land proposed for rezoning is located on the edge of an existing residential area. • The indicative development scheme for the proposed rezoning provides connectivity with the existing road network and pedestrian infrastructure. • Should the rezoning be approved; subsequent DAs would need to be supported by further detailed assessment of traffic impacts, car parking, and site servicing/manoeuvring and waste collection. • The proposed access to the site would need to comply with AS2890.1 with adequate grades, widths and sight distance etc. • No objections to the proposed rezoning in principle.
Geotechnical Issues	• The geotechnical report dated 5 December 2016 by Southern Geotechnics provided a good description of the land proposed for rural/residential development and demonstrates feasibility of the proposal from a geotechnical perspective.
Environment Issues	• The Ecological Constraints Assessment (EcoPlanning 2017) states no threatened species habitat or hollow bearing trees – site inspection undertaken 2/3/17 identified hollow bearing trees with potential to provide habitat for a number of threatened species. No additional survey or assessment required at this stage as all areas of potential habitat are currently proposed to be retained within the riparian area/E2 zoning. • Vegetation community MU13 Moist Box-Red Gum Foothills Forest mapped and confirmed • Rezoning from E3 to E2/E4 will result in a low level conservation and improvement outcome as outlined in the IESMP 2015 and Farmborough Heights to Mt Kembla Concept Plan (2013) • The proposed E2 zoning area is too small for a BioBanking

	Agreement. Not recommended that E2 zone have minimum lot size of 5,000m². • The successful implementation of a Vegetation Management Plan through a Property Vegetation Plan would result in a moderate to high level Biodiversity outcome being achieved – an appropriate Conservation Agreement will need to be administered/registered, funding obtained and active management underway prior to the issuing of a subdivision DA to ensure an improved biodiversity outcome (new Biodiversity Conservation Act 2016) • To ensure high level conservation and improvement outcome, preference for area proposed for E2 zone to be dedicated to Council with VMP and funding. If the landowner does not wish to dedicate to Council, recommended all proposed E2 land to be contained within one separate lot to be owned and managed through Community Title.

ADVICE

WOLLONGONG CITY COUNCIL – WOLLONGONG LOCAL PLANNING PANEL (WLPP)

DATE OF HEARING	31 October 2018
PANEL MEMBERS	Sue Francis (Chair), Mark Carlon, Larissa Ozog, Bernard Hibbard (Community Representative)

MATTER
PP-2017/2 – Lot 100 Cordeaux Road, Mount Kembla.

PROPONENT SUBMISSION2
The Panel was addressed by the proponents and experts.

PANEL CONSIDERATION AND ADVICE
The Panel considered the matters listed in the Council officer's report, and the material presented at the meeting and the matters observed at the site inspection.

The Panel considers that the Planning Proposal has strategic and site specific merit and is consistent with the Farmborough Heights and Mount Kembla Concept Plan.

The Panel has noted the submissions from residents and suggests that Council might consider removing the E3 Zone and making it E2. This would not prevent the indicated subdivision and anticipated uses of the site but would better meet the communities concern to maintain the sites rural character.

The Panel also suggests that Council consider increasing the minimum lot size from 4999 square metres to 5999 square metres in the E4 Zone to ensure only three lots can be achieved as requested by the applicant and consistent with the Concept Plan.

VOTING
The voting in respect of this matter was unanimous