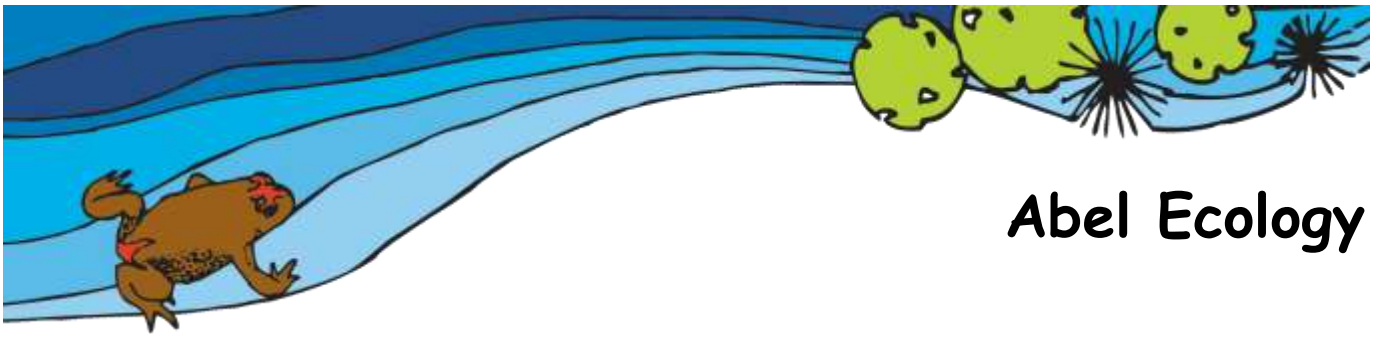


Abel Ecology

Document No: 1472-LET-145

16 October 2015

Ian Malouf
The Next Generation
84-88 Burrows Road
Alexandria NSW 2015

Attention: Skye Playfair-Redman

Dear Ian,

Response to exhibition feedback

1. Introduction

The Energy From Waste (EFW) proposal has been on public exhibition. Various submissions were received. This letter provides a response to the following letters received as part of the public exhibition.

1. Letter from Office of Environment and Heritage (DOC 15/168903 SSD 6236) (21 July 2015)
2. Letter from Bill McCredie (Partner) and Meg Lee (Associate) from Allens (27 July 2015) – Submission on behalf of Jacfin Pty Limited.
3. Letter form Brendan McRandle (A/g Executive Director Western Sydney Unit) (24 July 2015) – considerations related to the proposed airport at Badgery's Creek
4. Letter from Glennys James (Director Design and Development) (24 July 2015) Blacktown City Council
5. Letter from Kristian Holz (Policy, Legislation and Innovation) NSW Department of Primary Industry Water (23 September 2015)

PO Box 495
Unit 2, 10-11 Ferguson Road
Springwood NSW 2777

T (02) 4751 9487
F (02) 4751 9488
E info@abelecology.com.au
www.abelecology.com.au

2. Letter from Office of Environment and Heritage (DOC 15/168903 SSD 6236)

2.1.1 Biodiversity

Exhibition comment

> *"OEH's previous comments raised the issue that the proposal did not adequately 'describe how the principles of "avoid, mitigate, offset" have been used to minimise the impacts of the proposal on biodiversity', as required by the Director General's requirements. More information has been provided in section 8.1 of the Flora and Fauna Assessment Report (FFAR) (Abel Ecology 2015), in relation to mitigate and offset impacts. However, the report states that clearing areas of biodiversity 'has not been avoided'. This is not adequate. The report should include a discussion of how the design of the proposal has considered alternatives that would have a lesser impact were not feasible."*

Proponent comment

The following details provide information related to discussions on the possibility of avoiding the areas of biodiversity. The principle of "avoid" is considered with reference to two areas of biodiversity, namely 1. Cumberland Plain Woodland (CPW) in the north-east corner of the proposal area and 2. River Flat Eucalypt Forest (RFEF) in the south-east corner of the proposal area. Many of the details have been provided by other individuals involved in the project, particularly engineers. Much of the technical information has been provided by Ramboll and HZI.

1. Cumberland Plain Woodland (CPW)

Two different components of the proposal overlap the CPW. The proposed Estate Road overlaps the northern portion of the CPW, while the Energy from Waste (EfW) facility overlaps the southern portion of the CPW.

The approximate location of the road is prescribed by SEPP 59 Eastern Creek Precinct Plan Stage 3 (Figure 30 – Local Road Pattern – page 10-13) and it is presumed a road would be required to provide access to the area. The Estate Road would be required to move either north or south to avoid the CPW. Note: the location of the Estate Road east of the site has already been approved (discussed below). Discussions of avoiding the CPW by changing the proposed alignment of the Estate Road appear redundant given the existing approval, however, for completeness a comment is provided.

Consideration of moving the proposed Estate Road to the north

An existing road used for an adjoining facility is already present to the north. This is regularly used by double bogey trucks as well as other vehicles. This existing road was not designed for the traffic requirements for the EfW facility or other adjoining businesses or workplaces which are likely to be eventually built along the western end of Estate Road. Additionally Figure 30 (SEPP 59) indicates it is likely the Estate Road will eventually be linked to Archbold Road to the

west, thus it is likely road traffic will increase significantly when the link occurs, again the existing road to the north (DADI Drive) was not designed to meet the traffic demands of a Standard Collector Road.

Consideration of moving the proposed Estate Road to the south

The proposed Estate Road would have to be moved approximately 90m to the south to avoid the Cumberland Woodland. This would also require presumably two approximately right-angle bends in the road and require part of the road to be built on the Hanson's site, varying the existing approval. It is unlikely this would be considered a good design by either Hanson's or any government authorities.

Approved Estate Road to the east

There is an existing approval for the Estate Road east of the site: *Modification of Minister's Approval (24 October 2013) – Schedule 1 - Project Approval 06_02225 Granted by the Minister for Planning on 3 June for the Hanson Concrete and Asphalt Facility, Eastern Creek*. This project approval displays the western end of the Estate Road finishing adjacent to the CPW. If it was determined the CPW must be avoided it would presumably require government agencies to negotiate with Hanson's to realign this section of the road.

Alternatively, an approximately right angle bend could be built at the western end of the Estate Road is proposed on the Hanson's site. This would be required for the Estate Road to avoid the CPW and a second approximately right angle turn would be required to allow the proposed road to be in an approximately east-west alignment. However, creating two right angle bends would be inconsistent with the general concept of the road as displayed in SEPP59 as no right hand turns are displayed at this location. Furthermore, presumably building two approximate right hand turns at this location would be considered a poor design from a traffic engineering perspective.

Consideration of moving the proposed EfW facility to the west or south.

The southern portion of the CPW could be retained if the EfW facility was moved either approximately 40 - 50 m to the west or by approximately 60 m to the south.

Simplistically there are six components to the proposal. A brief comment regarding the function of each component will also be provided. A brief explanation of the interrelationship of the components of the facility provides a background to discussion the possibilities of moving or rearranging the components or the proposal.

1. The Estate Road. The Estate Road provides access to the site.
2. The EfW facility – comprised of the tipping area, waste bunker, boiler house, ash handling area and flue gas treatment. The EfW facility itself is where the feedstock (waste material) will be converted to heat energy.
3. Adjoining components – turbine hall and air cooled condenser. These two components are required to be adjacent and are required for operation of the EfW facility.

4. Sub-station – the sub-station provides a link between the energy generation components (EfW facility and turbine hall/air cooled condenser) and the transmission line located in the power easement to the west of the proposal area.
5. The conveyor. The conveyor links the existing Genesis Xero Waste facility (the source of feedstock) at the EfW facility. Part of the conveyor will be built below the Estate Road.
6. Three lay-down pads. The three lay-down pads are required for storage of the materials used in constructing the EfW facility, eg: the building and plant equipment, space to allow pre-erection of some of the components. The lay-down pads must also have a minimum bearing capacity to allow the heavy crawler cranes to operate.

   Additionally, the lay-down pads must be directly adjacent to the EfW facility and allow efficient and safe movement through providing adequate access of materials and plant equipment consistent with Occupational Health and Safety objectives. The lay-down pads will also provide areas for offices, parking, lunch rooms etc.

Consideration of moving the EfW facility to the west

If the EfW facility was moved approximately 40 - 50 m to the west, it would avoid the southern portion of the CPW.

A consideration of relocating the EfW to the west while retaining the current proposed location of the conveyor is examined first. Locating the EfW facility to the west whilst retaining the current position of the conveyor is disadvantageous because:

1. The current design allows the feedstock (waste material) to be transferred on the conveyor to the centre of the tipping area. If the EfW plant was moved to the west, the feedstock would then be delivered to the eastern side of the tipping area. The following disadvantages arise:
   i. Mixing of the feedstock. A central location for the depositing of the feedstock is preferred as it allows the most efficient way of thoroughly mixing the material. Mixing of the material is required to even out the waste composition prior to entry into the combustion process. Offsetting (a non-central location) the deposit of the feedstock, tends to lead to a poorer mixed feedstock .
   In contrast a well mixed feedstock achieves a constant steam production, high process efficiency and also peak emissions are avoided. The reduction in peak emissions allows the use of Air Pollution Control (APC) reagents to be optimised and thus less APC residue has to go to secure landfill, providing a benefit through a reduced environmental impact.

   The problem created by an off-centre conveyor deposit location is the division of the bunker is uneven and within the smaller side, the mixing process will become more difficult. This may require waste from the smaller side to be moved to the other side for mixing purposes only. While there are alternatives, for example, undertaking more mixing through the use of a crane, these and other alternatives are considered non-optimal and inefficient.

ii. As the control room is located in the centre of the plant, an off-centre location of the conveyor would restrict the visibility of the operators observing the incoming waste.

2. An alternative is to move both conveyor and the EfW facility to the west. Moving the conveyor 40 – 50 m to the west is unlikely to be feasible due to the location of the edge of the existing quarry coinciding with the conveyor position. The tunnel for the conveyor between the existing quarry and the EfW facility will be increased in length. An existing power pole is also present 40-50 m to the west, which would likely require relocation.

3. A second alternative is to use bends in the conveyor. Bends in the conveyor add risks by increasing the likelihood of congestion of material, and also subsequently increasing the manual action needed to remedy the problem.

4. Another design possibility is to offset part of the facility by moving some parts of the EfW facility to the west (to avoid the CPW). While the tipping hall, bunker and boiler must stay in line, some parts of the EfW facility could be offset. However this is disadvantageous for the following reasons:

   (i) The boiler house is required to be in a direct line with the tipping hall and bunker, as the waste has to be fed directly to the boiler by the crane operator. Any other arrangement would lead to increased occupational health and safety issues and reduced plant availability.
   (ii) If the stacks were retained in their current position while moving other parts of the EfW facility to the west, pressure drop would increase, due to increased duct length, and fan usage would increase, overall reducing efficiency in the plant. Additionally as the flue gas treatment is located away from the stack, the steel structure of the flue gas treatment cannot be used to provide access to emission monitoring equipment. Thus, a stand alone platform at the stack would need to be provided, which would create greater visible impact, also reducing site lines.
   (iii) The movement of the tipping hall, bunker and boiler to the west requires the location of the control room and crane driver position to be moved from its central position, restricting visibility. This decreases the ability of the crane driver to adequately mix the material, potentially leading to poorly mixed feedstock.

5. Offsetting the flue gas treatment part of the facility is also a possibility. However, this is avoided as far as possible due to the following reasons.
   (i) A reduction in efficiency in operation of the EfW plant due to additional bend losses, ie: pipes with bends reduce flow efficiency when compared to straight lengths. Deflections of flows always are critical from a design point of view and increase wear and tear of components.
   (ii) Internal sight lines are obscured. This is a consideration for OH&S, as if an evacuation of the building is required, escape times will be increased. Also the ability of other workers to keep a watchful eye out for potential accidents or issues

is reduced. Further, a linear alignment allows clear identification of the affected components in case of malfunction and less confusion when time for reaction is limited.

(iii) Maintenance of the facility is made more difficult due to constraints in accessibility when lifting and replacing heavy parts.

(iv) A linear arrangement is the most space conserving concept, offset of equipment always increases the total area required.

Consideration of moving the EfW facility approximately 60m to the south

The primary difficulty in moving the EfW facility to the south is there is inadequate space for the approximately linear arrangement of the EfW facility and Turbine Hall and Air Cooled Condenser and the bio-retention basin. Moving the Air Cooled Condenser further south may move its position within the riparian corridor. Offset alternatives are considered above and have disadvantages. A second disadvantage is the overall height of the building pad for the EfW facility will be lower, perhaps significantly lower significantly increasing the volume of required earthworks.

Consideration of the substation location

While the substation location itself does not require the removal of indigenous vegetation, the current location of the substation in some ways constrains the location of the EfW facility. If the substation could be easily moved west or elsewhere it would allow the EfW facility to be moved west (to avoid the CPW). However if the substation cannot be easily moved, it would require the EfW facility to stay in its current location.

Advantages of the proposed substation location

The proposed substation is best located in a position close to the existing transmission line to the west. The substation is also in a good position if it is located adjacent to the EfW facility.

The substation must be in a location which allows easy access to electricity authorities. Access to the substation must not create any additional workplace safety obligations. Thus the substation must be directly adjacent to the transmission easement or the Estate Road.

If the substation was moved north-west it would increase the distance from the turbine generator to the substation and correspondingly decrease efficiency. In addition, moving it north-west would also mean (high voltage) cabling works have to go cross laydown/erection areas and therefore reduce availability of laydown/erection areas and might well also create HSE issues with such parallel activities. Also the proposed area is similar is height to the easement, while at alternative locations the height between the substation and easement is increased, reducing the efficiency of road access.

Considerations on placing of turbine hall, air cooled condenser (ACC) and substation

To minimize the footprint and allow the plant to be erected within the given site the turbine hall and the ACC have been placed adjacent to the process streams. While the position of the turbine as such is less critical it is important to keep the turbine in near proximity to the ACC in order to reduce pressure drop losses in the turbine exhaust. Further the vicinity of

turbine/generator and substation minimizes transmission losses and high voltage cabling within the plant.

2. Eucalypt River Flat Forest

Lay-down Pad No. 5 overlaps a portion of the Eucalypt River Flat Forest. The requirements of the three lay-down pads are discussed above. Considerations (advantages and disadvantages) of the locations of the lay-down pads are described below.

Advantages of the current locations of Laydown Pad No. 2 and Lay-down Pad No. 4. These two lay-down pads provide 34, 750 m^2 of flat area adjacent to the proposed building facility. The proposed position requires earthworks however, as the land at this location slopes to the south. While this area is sloped, it is generally only slope in one direction, thus less earthworks are required when compared to moving the facility to the west.

As described above the three lay-down pads are required for storage, pre-assembly and construction site buildings. Lay-down pads are required with direct access on both sides of the facility. Lay-down pad 2 and 4 allow access from the west, pad 5 from the east. The less space for lay-down areas the more interference between heavy traffic, pedestrians, pre-assembly works (cranes, etc.) and pathways which could lead to higher risk of accidents.

Lay-down pad 2 and 4 will primarily be used for construction site buildings (offices, cloak rooms, lunch rooms, parking, etc.). Laydown pad 5 provides storage and preassembly space.

An adequate overall size of the Lay-down pads is required to provide adequate space for storage and preassembly of materials. The spacing must also be suitable to provide efficient and safe handling of building materials and plant equipment and to provide sufficient clearance as to be consistent with preferred Occupational Health and Safety objectives. Also space is required for First aid rooms, offices, parking etc. A reduced Lay-down pad area will lead to the handling and preassembly of materials (lifting gear and manual works interacting) within close proximity. This will lead to an increased risk for accidents and additional Occupational Health and Safety issues.

Disadvantages of moving Lay-down Pad No. 2 and Lay-down Pad No. 4.
The topography to the west of the proposed locations of Lay-down Pad No. 2 and Lay-down Pad No.4 also slopes to the west in addition to the slope to the south. Moving the Lay-down Pads to the west increases the amount of cut and fill required to construct these two lay-down pads.

Additionally the use of the lay-out pads is somewhat constrained as Lay-down pad (near the north-eastern corner of the proposal. Is not suitable for the access of heavy machinery to the Boiler House, so it will be used for the car park and other construction site buildings.

Exhibition comment

> *"OEH's previous comments also raised the issue that the report should include data from the quadrats. It is noted that the quadrat data has now been provided and figures in the FFAR display the location of the quadrats, however the quadrats should be numbered in these figures so that the data can be related back to its location."*

Proponent comment

The figures displaying the locations of the quadrats have been amended and are attached to this document as an amendment (Attachment A).

Exhibition comment

> *"OEH's previous comments noted there was no proposal to provide offsets. It is noted the amended report now proposes offsets, which include the regeneration or replanting of areas of Cumberland Plain Woodland and River Flat Eucalypt Forest. However, OEH considers the proposed offsets are inadequate, for the following reasons:*
>
> - *most of the areas to be replanted/regenerated are within the State Environmental Planning Policy 59 riparian boundary, which was already required to be protected. Therefore it is considered that the proposal is likely to result in a net loss of biodiversity over the site.*
> - *A large proportion of the River Flat Eucalypt Forest offset area will be on batters around the building platform and bio-retention basin. The likelihood of recreating River Flat Eucalypt Forest on well drained batters, and maintaining them in the long term is very low, given this community naturally occurs on flat, damp or waterlogged floodplains.*
> - *The offsets proposed in the FFAR calculate out as ratios of 1.7:1 for the River Flat Eucalypt Forest and 2:1 for Cumberland Plain Woodland. Adequate offsetting ratios for replanting should be much greater, in the order of 10:1 – 20:1, given the time required to recreate ecosystems and the risk of failure.*
> - *The areas proposed for regeneration and revegetation have no long term protection, such as appropriate zoning or covenants."*

Proponent comment

The current proposal including offsets is being re-submitted. Abel Ecology has been advised supporting information for the biodiversity offsets is contained in the response by Brendan Tynan-Davey (DADI).

Planting on the batters can be a mix of Cumberland Plain Woodland (CPW) species and River Flat Eucalypt Forest (RFEF) species, many species are common to both ecological communities. NSW DPI have commented the SEPP 59 Eastern Creek Precinct Plan (Stage 3) states:

5.6.1(e) Development adjoining riparian corridors and trunk drainage channels (including detention basins and wetlands) must include a 10m buffer zone consisting of a landscaped open space area that can tolerate occasional flooding.

Thus while the adjoining 10m buffer zone (sloped batter) will regularly be dry, it will possibly be flooded on occasions so an indigenous species mix which will tolerate occasional flooding will assist in meeting OEH and the SEPP 59 requirements for the area.

Exhibition comment

"The FFAR recommends the preparation of a Vegetation Management Plan (VMP). However, there is no commitment in the EIS to prepare such a document. Any conditions of consent should require the preparation of a VMP and implementation in perpetuity."

Proponent comment

NSW DPI have recommended a Vegetation Management Plan be prepared as part of their conditions of approval.

Exhibition comment

"OEH supports the recommendations listed in section 11 of the FFAR, including the recommendation to undertake further surveys for the Cumberland Land Snail prior to vegetation clearing."

Proponent response

A further survey for the Cumberland Land Snail undertaken prior to the vegetation clearing can be included as a condition of consent.

Exhibition comment

"Section 11 of the FFAR includes species recommended to be used in revegetation. OEH also recommends that any plants used in replanting should be of local provenance."

Proponent response

A condition of consent can be included which states: *"Any revegetation works must use planting material of local provenance."*

---

3. Letter from Bill McCredie (Partner) and Meg Lee (Associate) from Allens (27 July 2015) – Submission on behalf of Jacfin Pty Limited.

Exhibition comment

9 Visual impacts

> *"The Visual Impact Assessment in the EIS has given no consideration to the impact on our client's land. While Viewpoint 7 is from broadly the same southerly direction, it is substantially further away from the Premises than our client's site. At the boundary, the proposed development height will be some 60m from the ground and the stacks will rise over 107m above the common boundary levels. These heights are significantly above other industrial buildings in the area and will have a significant visual impact likely to affect the potential development of the remaining vacant land on our client's property.*
>
> *It is submitted that:*
> *• Additional planting along the southern boundary of the Premises (to the south of the bio-retention basin) be included as a requirement of a Landscaping Plan. This should be consistent with maintaining the vegetation visual catchment indicated under the Eastern Creek Stage 3 Precinct Plan[9].*
>
> *[9]Eastern Creek Stage 3 Precinct Plan, Figure 7, p2-7."*

Proponent response

NSW Department of Primary Industry have recommended A Vegetation Management Plan (VMP) be prepared for revegetation works along the Rope's Creek Tributary south of the proposed development. Planting will take place along the watercourse, close to the southern boundary of the premises. Locally indigenous species, including some of the following Red Forest Gum *Eucalyptus tereticornis,* Cabbage Gum *Eucalyptus amplifolia,* Swamp She-oak *Casuarina glauca* and Grey Box *Eucalyptus moluccana.* These trees grow to twenty (20) metres in height and sometimes up to thirty (30) metres in height in this location. Additionally local indigenous species which mature to a range of heights, such as smaller trees, shrubs and groundcovers will be included in the planting. The planted vegetation, using local indigenous species along the Rope's Creek Tributary will eventually provide a generally appealing visual impact when viewed from Lots 1, 2, 3 and 4 in DP 1145808.

Exhibition comment

13 Bio-retention pond and riparian area

> *"The EIS does not contain any detailed information about the bio-retention pond located on proposed Lot 4 and close to the boundary of our client's site. Similarly, there is little information regarding the treatment of the area within the riparian setback to the Ropes Creek Tributary near the southern boundary of the Premises.*

It is submitted that:

- *Further information is required about the construction and proposed operation of the bio- retention pond to ensure it does not become a source of odour or pollution; and*
- *Further information is required on the establishment and management of the area within the riparian setback and the land between the southern boundary and the riparian area.*

[12]*EIS, s3.3, Figure 16 – Site Master Plan, p27"*

Proponent response

Bio-retention ponds typically function to reduce pollution through the biological activities of the plants, micro-organisms and other life-forms. The bio-retention pond/s rather than being a source of pollution are likely to improve water quality. The use of bio-retention ponds is generally promoted by various government agencies as part of Water Sensitive Urban Design (WSUD).

SEPP59 Eastern Creek Precinct Plan Stage 3 states:

> *"5.6.1(c) Applicants are required to demonstrate that water sensitive urban design principles have been considered through the inclusion of water retention and reuse, minimisation of impervious areas, the use of grass swales, bio-retention systems, revegetation and regeneration of waterway areas and multiple use of drainage systems. "*

NSW Department of Primary Industry have recommended A Vegetation Management Plan (VMP) be prepared for revegetation works along the Rope's Creek Tributary south of the proposed development. This document will provide additional details on the establishment and management of the area within the riparian setback. Planting material will include local indigenous species suitable for bio-retention ponds, such as *Baumea articulata, Carex appressa, Eleocharis sphacelata, Juncus usitatus, Lomandra longifolia, Phragmites australis* and possibly *Typha orientalis.*

---

4. Letter from Glennys James (Director Design and Development) (24 July 2015) Blacktown City Council

Exhibition comment

The final plan of subdivision must also address the following issues already raised with the applicant:

"i The southern riparian area should be included as part of the abutting lots (i.e. proposed Lots 1 and 2). This will ensure that the owners of Lots 1 and 2 will share responsibility for the riparian area."

Proponent response

Plan Number SY072757.012 Land Partners Revision F Dated 5 March 2015 May20 displays that the riparian area will be included in the two abutting lots.

Exhibition comment

"iii The conservation area (located on the corner of Archbold Road and the M4 Motorway) is to be incorporated into proposed Lot 6. This will ensure that the owner of proposed lot 6 is also responsible for maintaining the conservation area."

Proponent response

Plan Number SY072757.012 Land Partners Revision F Dated 5 March 2015 shows the conservation area will be included within the larger lot.

Exhibition comment

1. "A larger area of native vegetation should be retained

a. *The offsets proposed for the endangered ecological communities (River-flat Eucalypt Forest and Cumberland Plain Woodland) are located within an area already identified as "riparian habitat" in the Precinct Plan. While there is no requirement under SEPP (WSEA) 2009 to protect and rehabilitate this area, the Stage 3 Eastern Creek Precinct Plan does include an objective to "preserve and improve the ecological integrity of the watercourses and riparian corridors" and this must be considered."*

Proponent comment

The current proposal including offsets is being retained. Abel Ecology has been advised, supporting information for the biodiversity offsets is contained in the response by Brendan Tynan-Davey (DADI).

NSW DPI have recommended a Vegetation Management Plan be prepared as part of their conditions of approval.

Exhibition comment

a. *"The biodiversity offsets should be in addition to the existing protection and management requirements. The total area used within the offset calculations therefore does not satisfy this basic principle. This is highlighted by the fact that some of the proposed offset area (Figure 11) is within an area of waterfront land, includes vegetation previously mapped as River-flat Eucalypt Forest and includes the proposed bio-retention basin and batters located in the riparian habitat. It is therefore recommended that additional existing endangered ecological communities be retained within the development footprint and/or additional offsets be provided."*

Proponent comment

The current proposal including offsets is being retained. Abel Ecology has been advised supporting information for the biodiversity offsets is contained in the response by Brendan Tynan-Davey (DADI).

Exhibition comment

> c. *"It is recommended that your Department confirm with NSW Office of Water that they agreed to the removal of the small section of the first order stream located to the east of the bio-retention basin (i.e. that runs in a north-south direction)."*

Proponent response

Abel Ecology has previously discussed the proposal with Gina Potter of the NSW Office of Water during the preparation of the most recent FFAR. In particular the removal of the northern drainage line was discussed and approved in email discussions on the 4 March 2015 (Attachment B).

Exhibition comment

> d. *"A vegetation management plan for the riparian habitat corridor is to be included as a condition of any consent granted."*

Proponent comment

NSW DPI have recommended a Vegetation Management Plan be prepared as part of their conditions of approval.

Exhibition comment

a. *"The north-south main collector road should be designed to eliminate any potential impact on the riparian habitat corridor."*

Proponent response

The *north-south main collector road* is Archbold Road, it is beyond the boundaries the site. Archbold Road is the responsibility of the NSW Roads and Maritime Services.

5. Letter from Kristian Holz (Policy, Legislation and Innovation) NSW Department of Primary Industry Water (23 September 2015)

Exhibition comment

"Clarification is required on the riparian corridor width required to be established along either side of the Ropes Creek Tributary at the site and whether the riparian corridor is meant to be consistent with SEPP59 – Eastern Creek Precinct Plan (Stage 3). The project as presented in the EIS is not consistent with the riparian corridor width outlined in the precinct plan. The project layout may need to be amended depending on the minimum width that is required to be established along the creek."

Proponent response

The proposal is consistent with the requirements of SEPP59 on the western side of the proposal. On the eastern side some of the proposed works overlap the edge of the riparian corridor, the adjacent 10 m buffer and 40 m from the top of bank of Ropes Creek Tributary.

The size of the riparian corridor (excluding the basin) as defined by the riparian corridor polygon in Figure 12 (SEPP59) is approximately 48,000 m2. The batter overlaps approximately 1600 m2 (approx. 3.3%) of the riparian corridor. Part of the works are proposed on the eastern side over the 10 m buffer and also occur within 40 m of the top of bank of the Ropes Creek Tributary.

Justification for the variation is addressed by the letter from Brendan Tynan-Davey (DADI).

Exhibition comment - Attachment A

"Protection of Watercourses and Riparian land

In its submission on the draft EIS, the Office of Water queried why the proposed riparian corridor either side of the Ropes Creek Tributary is not consistent with the State Environmental Planning Policy (Western Sydney Employment Area) 2009 and SEPP 59 – Eastern Creek Precinct Plan (Stage 3) and recommended:

- *the EIS and relevant appendices are amended so the riparian corridor width is consistent with the Precinct Plan (Stage 3), or alternatively,*
- *the EIS justify why it is inconsistent with the adopted precinct plan."*

Proponent response

The proposal is consistent with the requirements of SEPP59 on the western side of the proposal. On the eastern side some of the proposed works overlap the edge of the riparian corridor, the adjacent 10 m buffer and 40 m from the top of bank of Ropes Creek Tributary.

The size of the riparian corridor (excluding the basin) as defined by the riparian corridor polygon in Figure 12 (SEPP59) is approximately 48,000 m^2. The batter overlaps approximately

1600 m^2 (approx. 3.3%) of the riparian corridor. Part of the works are proposed on the eastern side over the 10 m buffer and also occur within 40 m of the top of bank of the Ropes Creek Tributary.

Justification for the variation is addressed by the letter from Brendan Tynan-Davey (DADI).

Exhibition comment

"The Director General's Requirements issued for SSD-6236 require an assessment of the development against State Environmental Planning Policy (Western Sydney Employment Area) 2009. Clause 19 (2) of this SEPP states "in determining a development application that relates to any land to which an existing precinct plan applies, the consent authority is to take the existing precinct plan into consideration". Clause 19(3)(b) of the SEPP lists the Eastern Creek Precinct Plan (stage 3) as an existing precinct plan.

SEPP 59 – Eastern Creek Precinct Plan (Stage 3) includes the following controls 5.6.1 (e), 8.3.5 (b), 8.4.3 (d) which relate to the riparian corridor along Ropes Creek Tributary:

5.6.1 (e) Development adjoining riparian corridors and trunk drainage channels (including detention basins and wetlands) must include a ***10m buffer zone*** *consisting of a landscaped open space area that can tolerate occasional flooding."*

Proponent response

It is assumed the riparian corridor is defined as the polygon displayed in Figure 12 (see below) and Figure 17 page 8-8 of SEPP59 (dated 14 December 2005). No buildings or laydown pad is proposed within this riparian corridor. Parts of the batters for Laydown Area No.5 and parts of the basin edge for the bio-retention basin overlap the riparian corridor. Figure 12 indicates basin edges are acceptable along riparian corridor boundaries

Vegetation is proposed along the batters which will function as landscaped open space and the vegetation will be tolerant of occasional flooding.

It is noted part of the batter for Laydown Pad No.5 overlaps the eastern portion of the riparian corridor boundary. It is a variation to the control (page 11-17 SEPP 59 –Eastern Creek Precinct Plan (Stage 3) Dated: 14 December 2005), which states:

(b) No cut, fill, or batters are permitted within the 10m setback of the boundary of a:

- *conservation area;*
- *riparian corridor*
- *open space area; or*
- *trunk drainage area.*

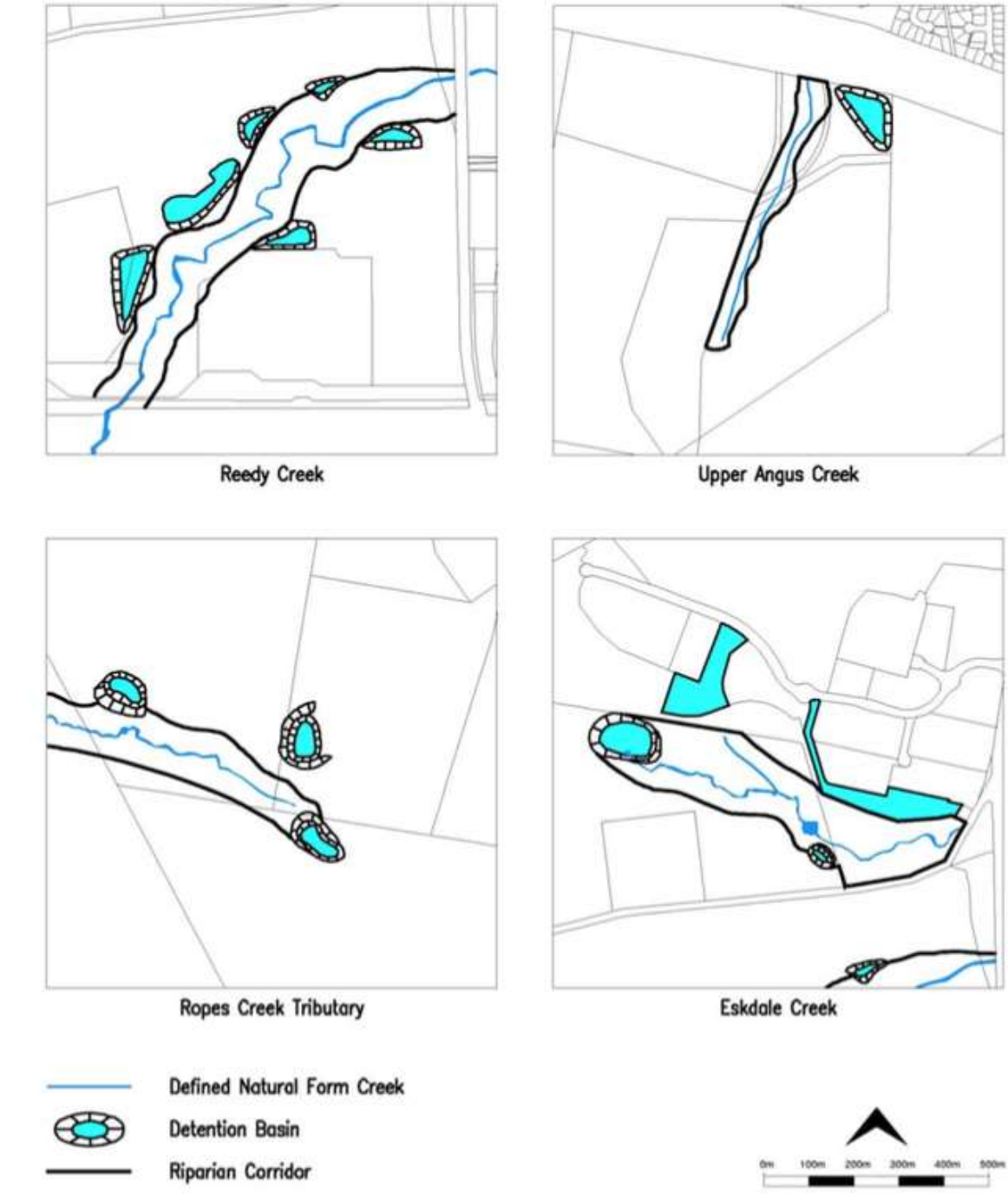


Figure 12 - Riparian Corridors

Figure 1. Extract of Figure 12 from SEPP59 Stage 3

Exhibition comment

"8.3.5 (b) When measured from the top of bank on either side of the creek, development consent shall not be granted, except for development associated with the protection, enhancement and management of the riparian corridor, on land within the precinct that is within:

- ***40m** of Ropes Creek Tributary"*

Proponent response

No laydown pad or building is proposed within the riparian corridor as defined in the polygon of Figure 12 (SEPP59) or Figure 17 (page 8-8 SEPP59 –Eastern Creek Precinct Plan (Stage 3) Dated: 14 December 2005). It is noted parts of the southern edge of Laydown Pad No.5 are located within 40m of the top of bank of Ropes Creek Tributary.

Parts of either the bio-retention basin earthen walls or basin area are proposed within 40 m of Ropes Creek Tributary. Figure 12 displays detention basins both within and overlapping the riparian corridor. Figure 12 (SEPP59– Riparian Corridors) indicates it is acceptable to locate detention basins within a riparian corridor. The function of Bio-retention basins is associated with the protection, enhancement and management of the riparian corridor (See 8.3.5 below).

8.3.5 Controls

(b) When measured from the top of the bank on either side of the creek, development consent shall not be granted, except for development associated with the protection, enhancement and management of the riparian corridor, on land within the Precinct that is within:

- *20m of Eskdale Creek (tributary of Eastern Creek),*
- *40m of Reedy Creek,*
- *40m of Ropes Creek tributary, or*
- *10m of Upper Angus Creek.*

Exhibition comment

"8.4.3 (d) APZ's are to be located wholly within the development site, outside of any conservation area or riparian corridor."

Proponent response

No APZs are proposed. The building will be engineered to cope with the radiant heat attack from any possible fire within the retained vegetation or revegetation works along the Ropes Creek Tributary. The Bushfire assessment report by Abel Ecology (13 June 2014) (Document No. 1282-REP-69-ISS-2) provides further details.

Exhibition comment

"It would appear a 20m wide riparian zone is proposed to be established along each side of the Ropes Creek Tributary although the EIS and technical reports are confusing in that they refer to a 20m wide and a 40m wide riparian width, for example:

- *Table 15 in the EIS indicates the development has been sited outside the 40m setback to the riparian corridor (page 105)*
- *Section 15.4.4. of the EIS notes that proposed facility and network excludes the riparian zone which extends 20m each side of the creek (page 159)*
- *Figure 28 in the EIS shows a 20m riparian setback is to be established either side of the creek*
- *Appendix F refers to a 20m wide riparian zone either side of the creek (section 3.1, page 5)*
- *Appendix H indicates works are proposed within 40m of the Ropes Creek Tributary and the southern boundary of the development footprint will be approximately 20m north of the creek (see section 8.2.1, page74)*
- *In response to Council's comments that the proponent is to demonstrate on the site plans that no works are proposed within 40m of the creek, Appendix A indicates the revised design submission demonstrates compliance."*

Proponent response

Some confusion may have arisen from the use of the terms "riparian zone" and "riparian corridor". Both NSW Office of Water and the SEPP59 (Stage 3) use the term "riparian zone". NSW Office of Water determines the width of the riparian zone on the basis of the Strahler stream order category. On this site Ropes Creek Tributary consists of a north-south branch and the main east-west tributary. To the west of the north-south branch Ropes Creek Tributary is a second order water course and requires a 20 m riparian zone. On the eastern side of the north-south branch the Ropes Creek Tributary requires a 10 m riparian zone. Thus the required width of the riparian zone varies along the length of the Ropes Creek Tributary on the site.

The term "riparian zone" is also used in the document SEPP59, however it is not defined within that document.

The riparian corridor is defined as the polygon in Figure 12 (SEPP59).

No buildings or laydown pad are proposed within the riparian corridor as defined in Figure 12 (SEPP 59). Some parts of the batter overlap the eastern portion of the riparian corridor boundary.

Exhibition comment

"The EIS notes an assessment of the proposed works against the provisions of the Eastern Creek precinct plan has been undertaken (Section 8.6, page 93) but a 20m wide riparian setback is not consistent with the Eastern Creek precinct plan. The precinct plan requires a 40m wide riparian corridor plus a 10m wide buffer zone to be established along either

side of the Ropes Creek Tributary. Clarification is required on the riparian corridor width that is required to be established along either side of the Ropes Creek Tributary."

Proponent response

The riparian corridor is defined as the polygon in Figure 12 (SEPP 59 Stage 3). No buildings or laydown pad are proposed within the riparian corridor as defined in Figure 12 (SEPP 59). Some parts of the batter overlap the eastern portion of the riparian corridor boundary.

Parts of the bio-retention pond and edges are proposed within 40 m of the top of bank and the 10 m wide buffer zone. This is consistent with the locations of detention basins as displayed in Figure 12.

It is noted the works are proposed within 40m on the eastern portion of the proposal.

Exhibition comment

"Appendix F notes the OSD basin will be positioned outside the riparian zone of Ropes Creek Tributary (section 4.2, page 9) but depending on the riparian width that is to be established, the basin may be located within the riparian corridor, as Appendix H indicates the basin is directly adjacent to and up-gradient to the tributary (Section 8.2.2, page 86)."

Proponent response

No part of the bio-retention basin is proposed within 20 m of the Ropes Creek Tributary. However, Figure 12 of SEPP 59 clearly displays bio-retention basins located within riparian corridors. NSW Office of Water guidelines (Guidelines for riparian corridors on waterfront land) state that it is permissible for basins to be located within the outer 50% of the vegetated riparian zone. Using the riparian corridor matrix (Guidelines for riparian corridors on waterfront land) the bio-retention basin could be moved up to 10m to the south.

Exhibition comment

"Section 2.1.3 of the EIS indicates the 20m wide riparian zone either side of the tributary is set by the Water Management Act 2000 (page 12). If the project is applying the Office of Water's guidelines (2012) for riparian corridors rather than the Eastern Creek precinct plan, it should be noted the Office of Water guidelines do not over-ride any other authorities' riparian setback requirements."

Proponent response

It is noted SEPP59 differs in detail regarding controls associated with riparian areas. The proposal is consistent with the NSW Office of Water guidelines. The western portion of the proposal is consistent with the requirements of SEPP59. Part of the eastern portion of the proposal overlaps the riparian corridor, riparian buffer and is within 40m of the Ropes Creek Tributary.

Exhibition comment

"If the SSD is approved, it is recommended a condition of approval is included which specifies the riparian corridor width required to be established along either side of the Ropes Creek Tributary at the site. The project layout may need to be amended depending on the minimum width that is required to be established along the creek."

Proponent response

This is information for the NSW Department of Planning and Environment.

Exhibition comment

"Appendix H indicates a Vegetation Management Plan for the Ropes Creek Tributary can be prepared as required (Section 8.2.1, page 74). The former DWE recommended the riparian zone be replanted as part of MP06_0139 (Eastern Creek (Light Horse) Waste Project). Condition 60 of Schedule 3 of the Project Approval for MP06_0139 required the proponent to prepare and implement a Landscape and Vegetation Management Plan. The condition outlines that this plan must include detailed plans and procedures "to restore and maintain the waterways and riparian zones of the Ropes Creek tributary on the site". The Office of Water recommended in its submission of 22 November 2011 on MP06-0139 (Mod 3) that the riparian zones widths should be in accordance with the adopted SEPP 59 – Eastern Creek Precinct Plan (Stage 3) and recommended the VMP reflect the precinct plan controls 5.6.1 (e) and 8.3.5 (b)."

Proponent response

A Vegetation Management Plan (VMP) was previously prepared (Abel Ecology 22 October 2009) which addressed the vegetation along Ropes Creek Tributary. Abel Ecology has been advised the VMP was approved by the Department of Planning on 5 December 2011 and the approval was completed in consultation with the NSW Department of Water and Energy and Blacktown Council.

Exhibition comment

"DPI Water reiterates that the VMP should include (but not be limited to details on the location of bed and banks and the footprint of the riparian zone to be established either side of the creek (measured from top of bank); vegetation species composition, planting layout and densities; seed/plant sources should be identified; the planting program, rehabilitation methods and staging and other revegetation techniques such as hydro seeding, direct seeding or assisted natural regeneration; maintenance requirements; processes for monitoring and review including a method for performance evaluation."

Proponent response

This is information for the NSW Department of Planning and Environment.

Exhibition comment

"Table 6 and Section 8.16 of the EIS indicate the proposal involves the part removal of a first order watercourse and that informal approval has been obtained from the Office of Water via email correspondence (pages 60 and 103). For transparency the proponent should provide a copy of the Office of Water's informal approval."

Proponent comment

Abel Ecology has previously discussed the proposal with Gina Potter of the NSW Office of Water during the preparation of the most recent FFAR. In particular the removal of the northern drainage line was discussed and approved in email discussions on the 4 March 2015 (Attachment B).

Exhibition comment

DPI Water – Recommended Conditions of Approval

1. *"A riparian zone shall be established and maintained along Ropes Creek Tributary on the site, for its entirety within the site. The extent of the riparian zone is to be measured horizontally landward from top of bank either side of the watercourses and the width is to be consistent with SEPP59 – Eastern Creek Precinct Plan (Stage 3).*
   [Note this condition needs to specify the minimum riparian corridor width that is required to be established along either side the Ropes Creek Tributary at the site. The condition needs to clarify if the riparian corridor width is meant to be consistent with SEPP 50 – Eastern Creek Precinct Plan (Stage 3)."

Proponent comment

The recommended conditions of approval are addressed to the consent authority which is the NSW Department of Planning and Environment, not the proponent. However, some comments are provided below.

SEPP 59 – Eastern Creek does not define a riparian zone. The proposal is consistent with the requirements of SEPP59 on the western side of the proposal. On the eastern side some of the proposed works overlap the edge of the riparian corridor, the adjacent 10 m buffer and 40 m from the top of bank of Ropes Creek Tributary.

The size of the riparian corridor (excluding the basin) as defined by the riparian corridor polygon in Figure 12 (SEPP59) is approximately 48,000 m^2. The batter overlaps approximately 1600 m^2 (approx. 3.3%) of the riparian corridor. Part of the works are proposed on the eastern side over the 10 m buffer and also within 40 m of the top of bank of the Ropes Creek Tributary.

Justification for the variation is addressed by the letter from Brendan Tynan-Davey (DADI).

Exhibition comment

2. *"The Proponent shall prepare and implement a Vegetation Management Plan (VMP) for the protection and rehabilitation of riparian land at the site. The VMP is to be consistent with the Department of Primary Industries Office of Water (2012) Guidelines for vegetation management plans on waterfront land and include but not necessarily be limited to:*
   - *(i) the location of the top of bank; the riparian corridor width (measured from top of bank); the location of any existing native riparian vegetation to be protected and the areas to be restored, including detailed scaled diagrams/maps;*
   - *(ii) mitigation measures to be implemented to avoid, protect and/or minimise potential impacts on riparian vegetation;*
   - *(iii) strategies to progressively rehabilitate/ regenerate/revegetate riparian vegetation, including vegetation species composition, planting layout and densities; seed or plant sources;*
   - *(iv) a monitoring and maintenance program. The program shall include:*
     - *details on the monitoring locations;*
     - *performance indicators*
     - *details on the responsibilities, timing and duration of monitoring;*
     - *contingencies where rehabilitation of vegetation fails;*
     - *ongoing maintenance including weed control;*
     - *reporting of monitoring results.*

The Plan shall be submitted for the approval of the Secretary four months prior to construction commencing. Construction shall not commence until written approval has been received *from the Secretary."*

Proponent comment

While an existing Vegetation Management Plan (Abel Ecology 22 October 2009) addressed the vegetation along Ropes Creek Tributary exists. It is assumed it will be amended or rewritten and submitted to NSW DPI Water.

Yours faithfully,

Dr Daniel McDonald
Abel Ecology Pty Ltd

Attachment A

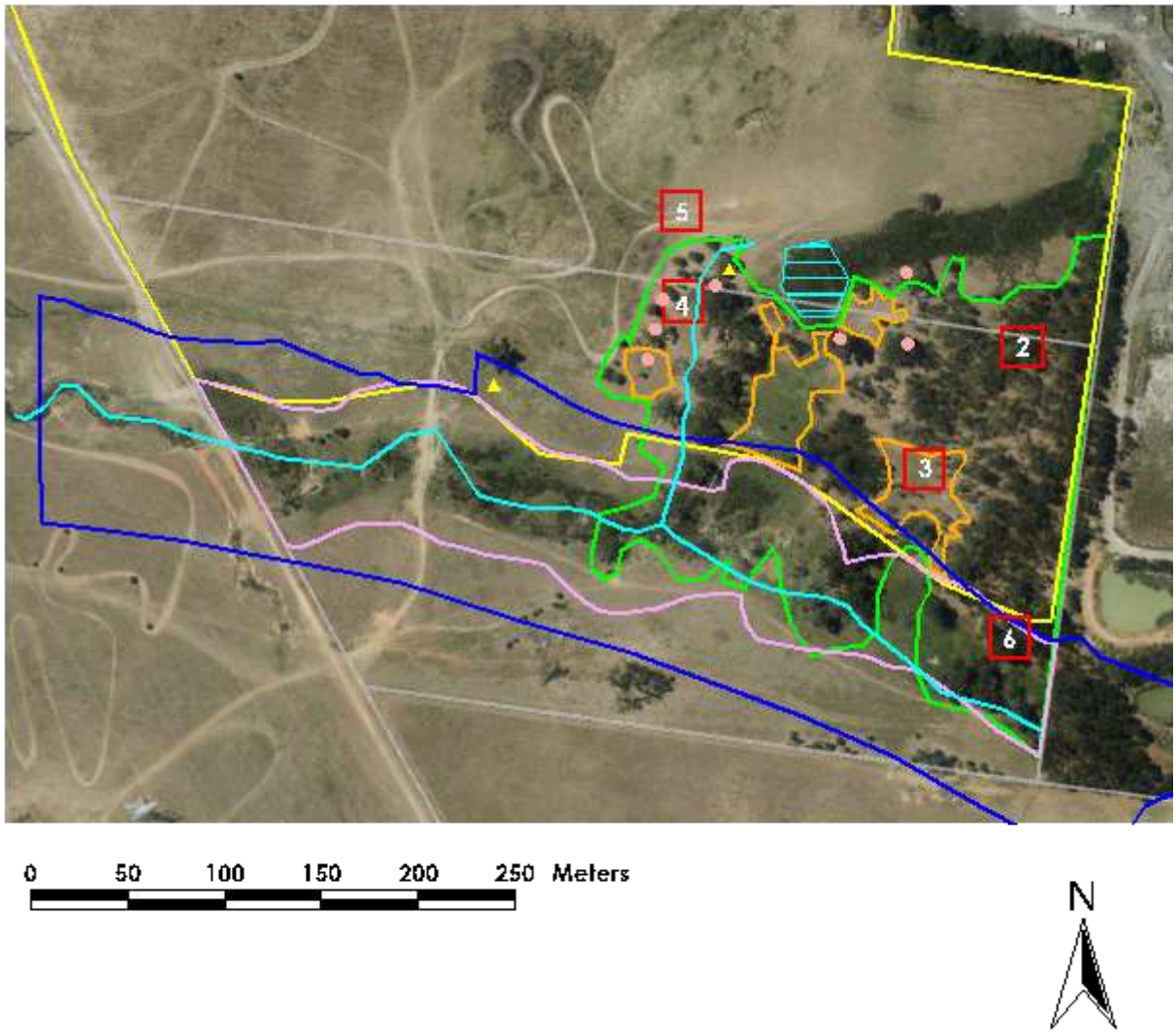


Figure 7. Close up of vegetation adjacent to Ropes Creek Tributary and adjoining areas.

Note: Quadrat 1 is located in the north-eastern corner of the development footprint and not displayed in this Figure.

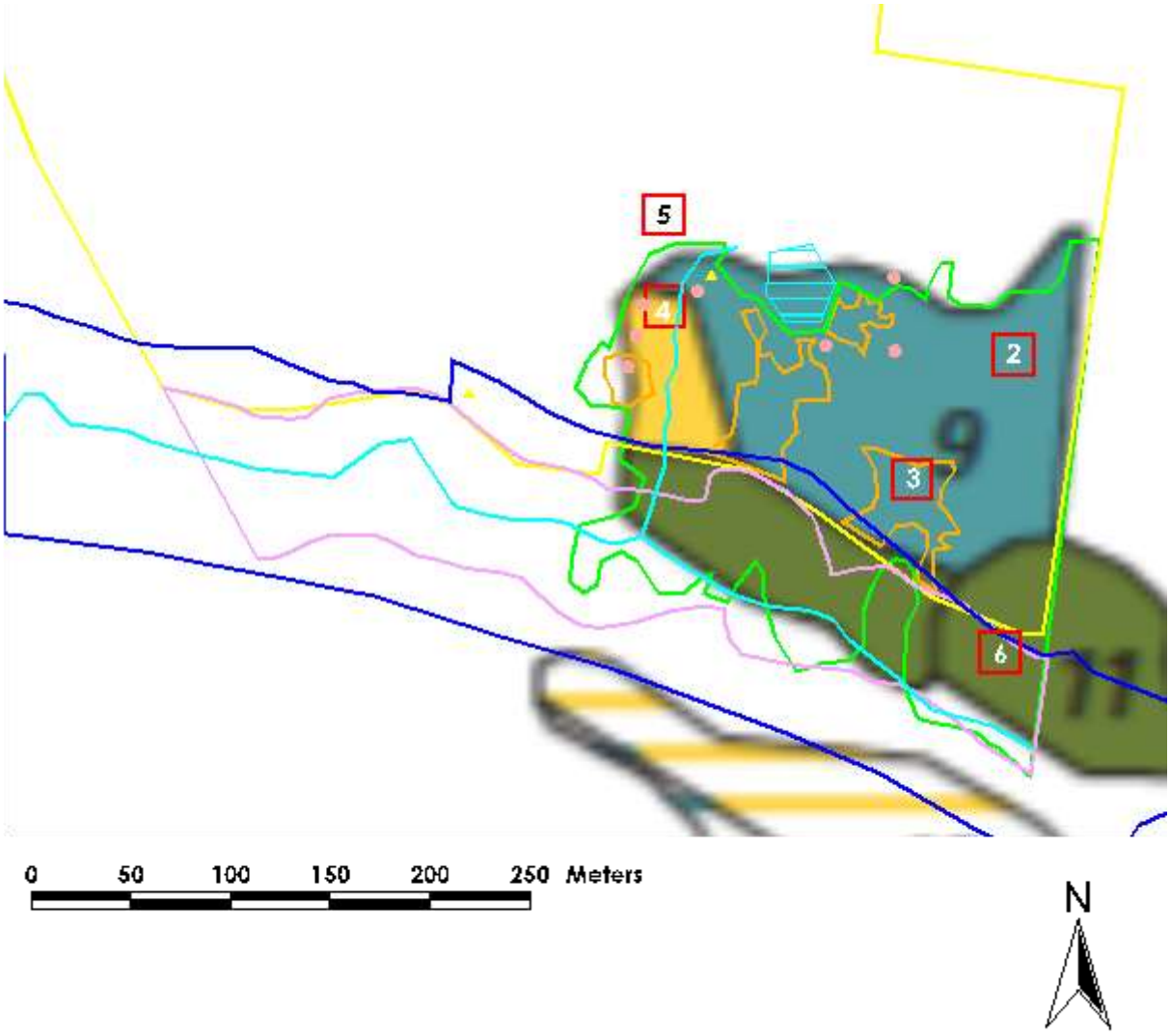


Figure 8. This figure displays the same features from Figure 7 overlaying the OEH 2002 Native Vegetation of the Cumberland Plain vegetation map.

- Anabat recorder location.shp
- Habitat tree.shp
- Topo watercourses.shp
- Quadrat.shp
- Sepp59 riparian poly.shp
- Topo dam.shp
- 20 m riparian setback.shp
- Skc34[b] development footprint.shp
- Approx boundary eu riverflat.shp
- Rfef weedy.shp

Note: Quadrat 1 is located in the north-eastern corner of the development footprint and not displayed in this Figure.

Attachment B

From: Abel Ecology <info@abelecology.com.au>

Subject: Proposal at Eastern Creek

Date: 2 March 2015 1:04:19 pm AEDT

To: Gina Potter <gina.potter@dpi.nsw.gov.au>

Hello Gina,

Thanks for taking my telephone call today and following on from our discussion about the proposal at Eastern Creek, I provide the following information.

The 1st order watercourse overlaps two lots:

The head of the watercourse overlaps the northern lot: Lot 2 DP 1145808; and the 1st order watercourse flows to merge with Rope's Creek Tributary in the southern lot: Lot 3 DP 1145808.

The location is to the west of Grevillea Street, Eastern Creek within the Western Sydney Employment Area SEPP zoned land.

I have attached the topographic map displaying the location and also a proposal diagram SKC34[B].pdf. As you can see the proposal involves the removal of the 1st order watercourse.

I have attached photographs of the watercourse. The photos were not taken specifically for to show the watercourse, so in some of the photos the depression indicating the watercourse is off to the side of the photo or elsewhere, rather then in the centre.

Please let me know if the above information is adequate for you to make an assessment and let me know if there is any more information that you require?

Also please let me know how long the assessment will take?

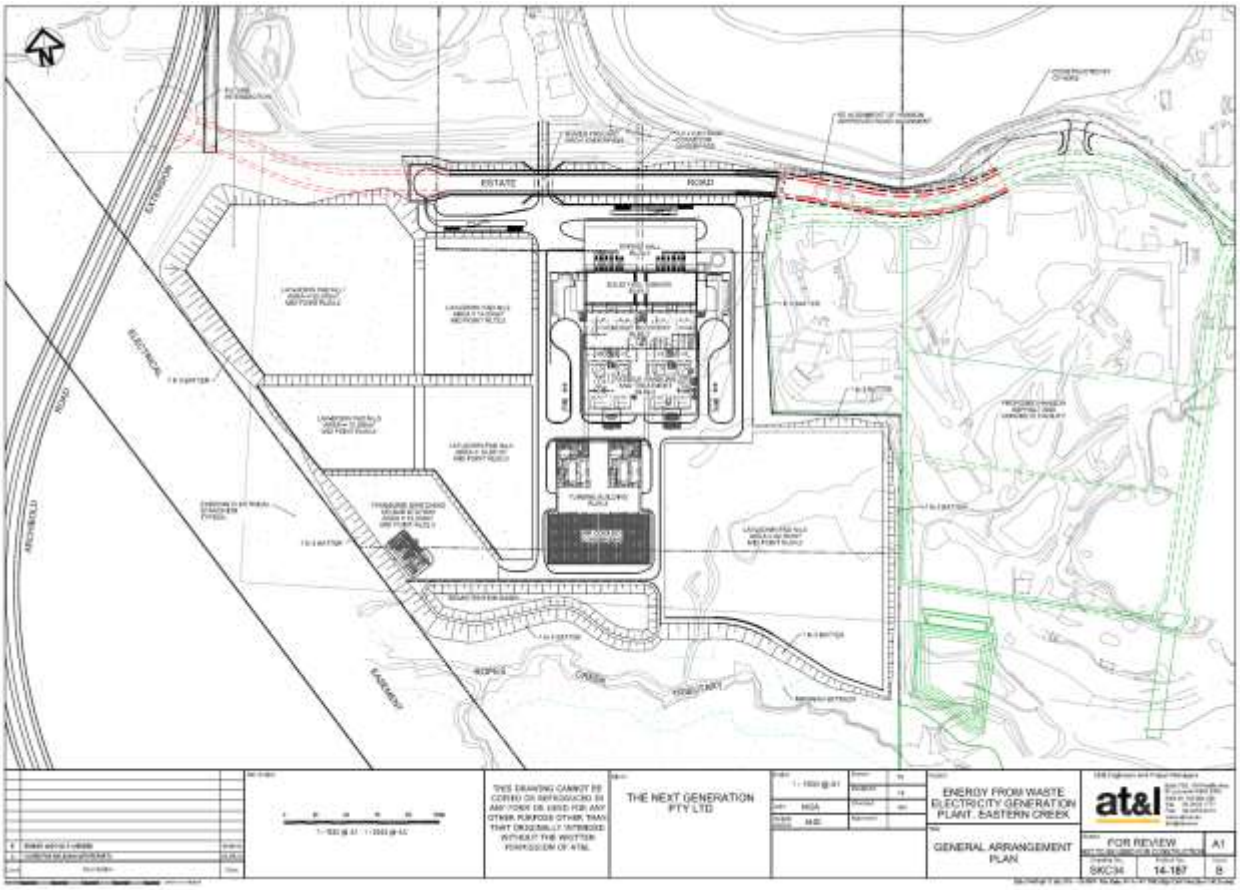
Thanks and regards,

Daniel

Dr Daniel McDonald
BScAgr, MAgr, PhD, MLinSocNSW

Abel Ecology Pty Ltd
Unit 2, 10-11 Ferguson Road
PO Box 495, Springwood NSW 2777
P (02) **4751 9487**

F (02) 4751 9488
E info@abelecology.com.au
www.abelecology.com.au




EASTERN
CREEK

From: Gina Potter <gina.potter@dpi.nsw.gov.au>

Subject: Re: Proposal at Eastern Creek

Date: 4 March 2015 11:34:03 am AEDT

To: Abel Ecology <info@abelecology.com.au>

If a CAA has been requested then yes.

Do we need to provide the Vegetation Management Plan along with the application or can it be provided prior to receipt of the CAA?

Also yes. You will need to supply VMP with CAA application.

regards,

Gina Potter | Water Regulation Officer
Water Regulation Group
NSW Trade & Investment | Level 11, 10 Valentine Avenue Parramatta | P O Box 3720 Parramatta 2124
T: +61 2 8838 7566 | F: +61 2 8838 7554
E: gina.potter@dpi.nsw.gov.au

On 4 March 2015 at 11:30, Abel Ecology <info@abelecology.com.au> wrote:
Hi Gina,

Thanks for the quick response.

I assume the applicant or their representative should now apply for a Controlled Activity Approval (CAA). Do we need to provide the Vegetation Management Plan along with the application or can it be provided prior to receipt of the CAA?

Thanks and regards,
Daniel

Dr Daniel McDonald
BScAgr, MAgr, PhD, MLinSocNSW

Abel Ecology Pty Ltd
Unit 2, 10-11 Ferguson Road
PO Box 495, Springwood NSW 2777
P (02) **4751 9487**
F (02) 4751 9488
E info@abelecology.com.au
www.abelecology.com.au

On 04/03/2015, at 11:23 AM, Gina Potter <gina.potter@dpi.nsw.gov.au> wrote:

Hi Daniel,

This is ok.

Where the watercourse remains, I recommend 10m riparian corridor (both sides of watercourse) be restored.

regards,

Gina Potter | Water Regulation Officer
Water Regulation Group
NSW Trade & Investment | Level 11, 10 Valentine Avenue Parramatta | P O Box 3720 Parramatta 2124
T: +61 2 8838 7566 | F: +61 2 8838 7554
E: gina.potter@dpi.nsw.gov.au