S002a_15

> *Clearing of parts of the Box Gum Woodland in the TSR and parts of the Stringybark Woodland will contribute to fragmentation of woodland habitat with associated edge effects and reduced connectivity*

The consequences of which are also clearly spelled out in the EA[24]:

> *Species that require continuous forested areas are likely to disappear from areas that are severely fragmented. These isolated remnants of woodland provide potential habitat to enhance connectivity of wildlife populations and help some species to overcome the consequences of habitat fragmentation (Wilson & Lindenmayer 1995).* ***Thus every patch of woodland in this area potentially plays an important role in facilitating dissemination of propagules and genetic material of native fauna and flora that helps to maintain viable populations within the local area*** *(our emphasis).*

It is this understanding that has led to a dedicated effort by community members to establish a Citizens Wildlife Corridor that includes the landfill site, the adjacent Box-Gum TSR and many nearby properties owned landholders who have nominated their land for inclusion. This corridor connects the Oxley Wild Rivers National Park via the Gara River to the smaller Yina and Imbota Nature Reserves. Here again, the choice of site for the new landfill is most unfortunate for its implied indifference to the community's effort and commitment to restoring effective wildlife habitat.

The unacceptability of the proposal's impact upon the natural environment is all the more apparent when it is realised that the remnants being affected include bush that is in reasonably good condition (EA, Appendix E, p. 40):

> *The understorey of the Box Gum Woodland community demonstrates high levels of species diversity, the understorey of the Stringybark Woodland had moderate levels of species diversity, while the grassland, sedgeland and farm dams generally had low levels of species diversity.*

The willingness of the Council to propose further degradation of a CEEC, through clearing and associated marginal disturbance, reflects a mind-set more in tune with colonial days than with the present.

(i) Limitations of the Survey

S002a_16

The Proponent's commissioned Flora and Fauna Assessment describes very clearly the extent and nature of the negative environmental impacts that the landfill footprint will cause. From the outset, we should keep in mind that any such studies cannot be regarded as the definitive, last word on the matter. As that report acknowledges EA, Appendix E, p. 23):

> *The main limitation of the survey was its 'snapshot' nature meaning that only a proportion of the full species diversity was likely to be detected.*

[24] EA, Appendix A, p.11

S002a_16

This is particularly pertinent when reporting on sightings of migratory bird species. It is also noteworthy that beyond the numbers of threatened species observed on the landfill site during surveys, there are **many more in the immediate area for which the landfill site is judged to be 'suitable habitat'.** An estimated 10 flora, 14 fauna and a further 5 migratory/marine species can be expected to make use of the landfill habitat from time to time.[25]

At GVEPA's July, 2010 meeting, members reported sightings on nearby properties of both the Spotted-Tailed Quoll (also photographed) and Koala.

Further, and as noted already, the failure to acknowledge the EPBC's clear statement that a critical aquatic ecosystem does indeed exist within the waters of the Gondwana Rainforests of Australia World Heritage Area that might be affected by leachate spill, there is no evidence in the EA that any effort has been made to undertake the necessary studies to identify the nature of that ecosystem. Consequently, the Flora and Fauna Assessment that is included as part of the EA is limited in scope and does not address the environment that is of most concern to the EPBC and forms the basis of the World Heritage inscription! **This is a major shortcoming, to say the least.**

(ii) Box-Gum Woodland

The first point to note about the Box-Gum Woodland is that it is recognised as an Endangered Ecological Community (EEC) under the TSC Act and as a **Critically** Endangered Ecological Community (CEEC) under the EPBC Act. GVEPA's consultant has advised that this CEEC designation is because as little as 5% of the original quantity of this kind of woodland remains across the state.

S002a_17

The proposal for the landfill access easement to the Waterfall Way includes removal of approximately 2 ha of the CEEC woodland, great emphasis being placed on the fact that this represents (EA, Appendix E, p. 25):

> *'Less than 5% of the relevant part of the TSR (south of Waterfall way [sic]) ... (which is)... a negliglible [sic] proportion (less than 1%) of that available in the local area.*

The implication that this is an inconsequentially small impact is predictable and seemingly at odds with the following admission, made elsewhere within the same report[26] (EA, Appendix E, p. 31):

> *The losses that will occur at the landfill site also contribute to the already significant level of cumulative habitat loss that has occurred at a regional scale on the New England Tablelands (DEC 2006)*

Further, the report emphasises that this remnant of Box-Gum Woodland is in surprisingly good condition, which simply adds to its habitat value (EA, Appendix E, p.26). And finally, since it is part of a CEEC, any suggestion of further clearing is quite out of order. As GVEPA's consultant[27] has observed:

[25] EA, Appendix E, pp. 44-52, 53-62 & 67.

[26] As was noted in GVEPA's submission in 2007, p. 3, this contradiction is possibly an example of where the Proponent has edited the commissioned report from specialist agencies.

[27] Tda Environmental Consulting, 2007, Report to EDO.

Environmental Consulting

> *This community is listed as a critically endangered ecological community, having undergone a decline of 95% or more of its original extent[1]. Whilst it is acknowledged that the proposal has attempted to minimise impacts on identified Box gum woodland community by locating the access track in an apparently degraded remnant it should be noted that given the limited range and distribution of this community, under the EPBC Act Policy Statement 1.1 (Significant Impact Guidelines, May 2006)* ***any impact is likely to be significant (our emphasis).***

S002a_17

The boundary of what is referred to as the Box-Gum Woodland was challenged by GVEPA (2007, p. 15) in its submission under the EPBC Referral in 2007 and that concern remains.

(iii) Threatened Species

An expected consequence of the clearing required for both the access road through the Box-Gum Woodland and in the landfill site itself, is a significant impact upon threatened species, both fauna and flora. The threatened species sighted in the study environs include (EA, Appendix A, pp. 23-29):

S002a_16

- Narrow-Leaved Black Peppermint (*Eucalyptus nicholii)*, listed as vulnerable under both the NSW TSC Act and the Commonwealth EPBC Act;
- Bendemeer white gum (*Eucalyptus elliptica*), a Rare or Threatened Australian Plant (ROTAP) species;
- Two threatened bird species: the Speckled Warbler (*Chthonicola sagittata*) and the Diamond Firetail (*Stagonopleura guttata*), which is listed as vulnerable under the TSC Act;
- Three species currently being assessed for probable listing under the TSC as vulnerable: the Little Eagle (*Hieraaetus morphnoides*), Scarlet Robin (*Petroica boodang*) and Varied Sittella (*Daphoenositta chrysoptera*).

In the Proponent's consultant's words (EA, Appendix A, p. 81 & pp. 134,135):

> *It is concluded that the loss of habitat due to the proposed development will have a* ***significant impact*** *(our emphasis) on local populations of two threatened woodland birds (Diamond Firetail Finch and Speckled Warbler) and two provisionally listed birds (Scarlet Robin and varied sittella [sic]) that have been observed on the proposed landfill footprint area. All five of these species have been recorded on the proposed landfill footprint area.*

Elsewhere, it is acknowledged that even though the Stringybark Woodland, which also contains small numbers of tree species that are indicative of the Box-Gum Woodland, is not regarded as 'core Koala habitat', it nonetheless contains clear evidence of recent Koala usage. This has led to the recommendation by the Proponent's consultants to recommend the preservation of one Yellow

Box tree (tree #3)[28], an action that seems to indicate that clearing of this woodland is likely to also have a negative impact upon the obviously struggling Koala population within this part of the valley.

S002a_16

Returning to the above statement about impact upon threatened species, this paragraph goes on to assure the reader that habitat loss will be offset by re-vegetation with similar species and conservation measures. In GVEPA's view there are two serious problems associated with this strategy.

(iv) Habitat Offset

The first, and most obvious, problem is one that we have identified previously. Removal of Box-Gum Woodland which carries CEEC status under the EPBC Act cannot be compensated for using the Habitat Offset strategy. GVEPA's consultant makes the following observation[29]:

S002a_18

> *Further the proposed mitigation measures do not seem to acknowledge the impacts on this specific community. The proponent has attempted to offset the impacts through a biodiversity offset strategy, which does not include any measures to manage the Box gum woodland. The proposed offset pertains to a vegetation community that is not classed as Box gum woodland.* ***For critically endangered ecologically communities, the use of a biodiversity offset strategy is not recognised by the Department of the Environment and Water Resources as a mitigation measure (our emphasis).***

It is unacceptable that the Proponent should propose to so flagrantly flout this key environmental safeguard. This adds emphasis to our consultant's assertion noted above that clearing of even a small area of this specially protected woodland is a significant assault upon the quality of the environment, and consequentially, its capacity to sustain the fauna that depend upon it. And when that fauna includes six acknowledged threatened species[30] (five threatened bird and the Koala), that is indeed a significant impact. But we should add to that figure the further 29 threatened species known to be in close proximity to the landfill for that habitat is judged to 'be suitable' (see above, p. 19). This is valuable habitat indeed that is will be lost.

The second aspect of the Habitat Offset strategy that is unacceptable again relates to the capacity of the environment to support the wildlife that current depend upon it. We note Principle 9 from the DECCW's *Principals [sic] of Biodiversity Offsetting* guidelines, which states that 'Offsets should minimise ecological risks from timelags'[31]. We presume that 'risks from timelags' refers to the loss of food sources and nesting sites due to clearing that cannot be replaced immediately they are removed through an offset strategy. In this case, the 35 species (6 known plus 29 likely) involved will lose immediately all access to this part of their range and with the intrusion caused by the

S002a_19

[28] EA, Appendix E, p.64

[29] tda Environmental Consulting, 2007, p.2

[30] GVEPA acknowledges the Proponent's claim that only four threatened species will 'lose territories' (EA, Appendix H, p.16), but argues that both the Little Eagle and Koala, which are both current users of the site, should also be included.

[31] EA, Appendix H, Appendix A, Attachment A, p.9

presence and activity of workers and machinery, it seems likely that this loss will be on-going (EA, Appendix H, p. 13:.

> *Several threatened species of birds are likely to be displaced due to construction of the landfill pit. However, the impacts will be minimised through the staged clearing required for construction of the landfill over its proposed 50 year lifespan. This will allow the maximum possible amount of habitat to remain while the Stringybark offset area becomes progressively more established.*

S002a_19

It seems obvious that Principle 9 will be violated by this proposal. But it gets worse!

Elsewhere in Appendix H, correspondence in 2006 between the *Department of Planning* and the *Department of Environment and Conservation*, included the following statement (EA, Appendix H, p. 2:

> *Consistent with the* EP&A Act, TSC Act *and* NP&W Act, *the proponent of any development is obliged to avoid natural and cultural features to the greatest extent possible.* ***No definitive experience or historical evidence exists to assure us that pre-disturbance 'naturalness' and biodiversity levels can be re-established following landfill construction. Nor is there any empirical information enabling us to gauge the rate at which biodiversity might recover (our emphasis).***
>
> *Nevertheless,* ***it is clear from the nature of landfilling that impacts to biodiversity are intense and that they will span time scales that are at least inter-generational, if not permanent (our emphasis).*** *Furthermore, the losses that will occur at the landfill site also contribute to the already significant level of cumulative loss that has occurred at a regional scale on the New England Tablelands.*

In other words, it is probable that full compensation will NEVER occur, and restoration of supporting vegetation will be slow. This seems clearly to point to the conclusion that Habitat Offset is very much an inferior strategy for compensating habitat loss, not just in the short-term, but also, in the long-term. This fact, together with the fact that five threatened bird species and the koala stand to lose further habitat if this landfill is built, **GVEPA must again call upon Governments to withhold approval. Given that alternative sites undoubtedly exist, we argue that there is no need for the landfill to be built on this site so that the survival of these already threatened species is not further jeopardised.**

And in terms of Residual Environmental Risk management, these observations are cause for pessimism: if full restitution of a cleared environment is unlikely to be achieved, then the Proponents assessment of HIGH/MEDIUM is optimistic, and there is a good case for declaring it more properly as **HIGH**.

(v) Increased Threat by Vermin and Pests

GVEPA believes that the presence of a landfill in any area inevitably increases the density of ground foraging vermin, such as foxes and cats. This is a particularly significant issue for the long-term survival of two of the threatened bird species because they nest on the ground (Speckled

S002a_20

Warbler) and/or feed on or close to the ground (Speckled Warbler and Diamond Firetail)[32]. So, not only will their habitat be significantly reduced, but their survival will be further jeopardized by increased predation.

Residual Environmental Risk re: Biodiversity

GVEPA concludes that the Residual Environmental Risk Assessment with respect to *Biodiversity* must be rated as **HIGH on both dimensions.** The centrally important aquatic ecosystem downstream is essentially undefined, as are the likely leachate pollutants, so that management of the risks cannot be defined either! The landfill site is subject to Habitat Offset compensation which it is acknowledged is unlikely to restore the environment to its existing condition, will effectively deprive threatened species that currently use it of its sustenance indefinitely, and there is nothing that can be done about that!

This is a wholly unacceptable proposal to anyone who respects the environment and acknowledges the downward spiral of species lost from the Australian environment since European occupation. And on that same theme, the EPBC's ruling in 2007 was squarely expressing concern that leachate pollution has the potential to affect the unique biodiversity that is part of that ecosystem.

What makes this particular proposal a special case, is that Australia has an international obligation to NOT wilfully take any actions that might prejudice its integrity by virtue of its international status as World Heritage site.

Obligations under the World Heritage Convention

As a signatory to the World Heritage Convention, GVEPA argues that the Australian Government and its people are obliged to ensure

> *the identification,* ***protection, conservation, presentation and transmission to future generations of the cultural and natural heritage referred*** *to in Articles 1 and 2 and situated on its territory, belongs primarily to that State.* ***It will do all it can to this end (our emphasis),*** *to the utmost of its own resources ...*

(see **http://www.worldheritagedump.com.au/Briefing/World Heritage Values 080625.pdf** , p.4)

It is now long-established that the Gara River sub-catchment is under on-going ecological stress[33] and this is acknowledged in the EA (Section 8.3.1, p. 143):

> *The Southern New England Tablelands Region State of the Environment Report (2004) and Supplementary report (2004/05) identifies the Gara River as a "stressed sub-catchment", exhibiting signs of poor water quality. It also shows signs of "high hydrologic and environmental stress", including:*
>
> - *Eutrophication (due to high nutrient content).*

[32] EA, Appendix H, p. 13 and Appendix E, p.75.

[33] Might note here several sources of stress, eg
1. ADC Sewage Treatment Plant effluent – now diverted to paddocks, but run-off is into Commissioners Waters
2. 8.4.2, p.157 – Bore Hole 5 reveals phenols in groundwater – adds to the understanding of Gara R as a stressed environment.

- *Poor river structure (stream bank erosion and poor riparian habitat).*

The Stressed Rivers Assessment Report 1998, produced by the former Department of Land and Water Conservation (DLWC), gave the Gara River the highest overall stress classification, indicating that water extraction within the region contributes to the river's environmental stress. Flows within the river are impacted both by the Guyra Shire Council Dams and the Malpas Dam, all of which are close to Guyra.

There are no doubt multiple sources of stress upon the Gara R, not the least being the ADC's Sewage Treatment Plant and the existing Armidale Landfill, which can be expected to continue and perhaps increase in future years, the release of leachate into the waterways. The EA, Section 8.18, p.264, recognises that cumulative impacts 'may occur as a result of another existing or future project proposed within the locality', but elsewhere (p. 160) expresses faith in its proposed management measures to avoid adding to this stress: S002a_2

As such management processes have been built into the design, construction and operation of the facility to ensure that no further stresses are placed upon waterways.

But as GVEPA has argued already, there are compelling reasons why we should question the validity of such claims. **We go further and urge the Government to refuse to permit this new landfill to be built, in so doing, seizing the opportunity to start the process of relieving this waterway of some of it stress, thereby improving the *protection* and *conservation* of the Gondwana Rainforests of Australia World Heritage Area. This is a 'once-in-a-lifetime' opportunity to act to at least stabilise, if not reduce, the on-going stress upon this system, and ultimately the waterways within the Oxley Wild Rivers National Park.**

The demonstrated unwillingness of the ADC to recognise the significance of the Gondwana Rainforests of Australia World Heritage Area as a property demanding 'protection and conservation … to the utmost of (our) resources)' is disappointing and difficult to understand. Perhaps it is a case of that old adage that 'familiarity breeds contempt'? It is possible that since residents in the New England districts live in close proximity to properties like the Oxley Wild Rivers National Park then, as 'insiders' (i.e. Australians in general and locals in particular), the risk is real and probably high, that we do not appreciate fully their uniqueness. The concomitant risk then is that we are all too willing to contemplate developments that should never be contemplated, at least not in such special environments.

Perhaps one reason for such apparent indifference to our World Heritage properties lies in the seemingly limited attention being given by Governments to Article 5 of the World heritage Convention, which requires them to:

adopt a general policy which aims to give the cultural and natural heritage a function in the life of the community and to integrate the protection of that heritage into comprehensive planning programmes

If Government were to approve this proposal, GVEAPA argues that such a decision would be an action that would speak much louder than words. Indeed, it would be tantamount to signalling quite the opposite value, that World Heritage properties are nothing special and do not require special exemptions from routine, normal planning behaviour.

Whatever the cause of the ADC's intransigence on this issue, GVEPA argues that Governmental obligations are unambiguous and binding: any proposed development that has potential to threaten the integrity of any of its (and the World's) World Heritage properties must not be approved. **It is unarguable that something as mundane as a municipal landfill, which is a short-term convenience to a small section of the wider Australian community, but which almost certainly will have long-term, deleterious consequence for the Natural World Heritage environment, could ever be contemplated, let alone approved.**

At the risk of boring repetition, we assert that this landfill DOES NOT NEED TO PROCEED ON THIS SITE because there are alternatives.

The Way Ahead

If a new landfill is to be built, then it must not be located anywhere in the Gondwana Rainforests of Australia World Heritage Area water catchment: we refute the claim that alternative sites do not exist and challenge the efficacy of the process that led to the current site being selected. S002a_21

Council's *Regional Landfill Siting Study (2004, p. 17)* includes the following statement in relation to the proposed site:

This does not necessarily mean that it is the best available site in the region, nor does it mean that it is an ideal site (our emphasis).

Unless a site is specifically excluded by way of legislation/planning, it could always be development into a landfill, dependent upon what mitigation measures are required to make it comply with both DUAP and EPA Guidelines. In these instances however, cost considerations then become increasingly important.

When coupled with the fact that in this site selection process the environment factor (one of ten, but lumped together with 'Local Amenity') was given a weighting of just 6 (maximum 10), it seems that Council's concern for the environment has not been high.

The reality is that other sites do exist and the above statement clearly indicates that Council's advisors understand that fact: what is needed is for an external authority to direct the Council to choose a different site.

The recent announcement by the NSW Government that the ADC will be dismissed and subsumed by a broader New England Regional Council simply facilitates the undertaking of a new search across a wider geographic area for a site that does not threaten a World Heritage property. We urge the new administrator of the nascent New England Regional Council to take the following steps to re-orient the landfill proposal:

1. Stop all expenditures on the current proposal, get the New England Regional Council (NERC) established and set up a new waste management committee (or other mechanism).
2. 'Buy time' in which to negotiate a genuinely shared, larger capacity waste treatment plant in a location that serves all immediate LGAs, by
   - maximising the use of the current Armidale facility by continuing down the pathway of AWT on the Long Swamp Rd plant; and

- if necessary, once the Armidale facility is full, use the current Uralla Landfill to deposit 'waste-to-landfill' from the Armidale facility as a short-term action while the new long-term facility is sited, approved and commissioned;

3. Negotiate for the design of a waste management system that includes appropriate Alternative Waste Technologies (AWT) and to serve the waste management needs of several Local Government Authorities (LGA).
4. Identify a site that does not threaten World Heritage values (probably means draining west of the watershed) which is suitably located for access by neighbouring LGAs (eg Glen Innes, Inverell, ...);
5. Acknowledge from the outset that this option may NOT BE THE CHEAPEST alternative: environmental preservation might well have an economic cost, but that is a consequence of being a signatory to the World Heritage Convention (which is morally the right and proper commitment to have made).

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Submission attached re Concern about Withholding Information.

Thanks

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[redacted]

Re: Armidale Dumaresq Landfill Project (06_0220) – Exhibition of Environmental Assessment

Concern about Withholding of Information

Email submission to:

Major Development Assessment
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Email: plan_comment@planning.nsw.gov.au

From:

[redacted]

Date and Time emailed: **Thursday, 5 August, 2010 at 12.35 pm**

Please confirm receipt

Re: Armidale Dumaresq Landfill Project (06_0220) – Exhibition of Environmental Assessment

As a founding member of the Gara Valley Environment Preservation Association (GVEPA) I have opposed the proponent's plan to build a new landfill in the Gara River Valley since 2002. I have authored substantial parts of the GVEPA submission where the focus has been upon the technical and environmental aspects of the proposal. **In this submission I want to highlight what I see to be serious deficiencies in the process by which the proponent has sought to achieve its end. I believe that this process has been deliberate and intended to stifle rational argument within the community about the efficacy of the proposal.**

I write to express my concern that the Department of Planning may not receive many submissions from Armidale Dumaresq citizens in response to the Public Exhibition of the Landfill proposal, and I want to offer my reasons for making that judgement. In essence, I've been forced to the conclusion that the Armidale Dumaresq Council (ADC) has pursued deliberately a policy of minimising information about the proposal to the public, and most probably also, to its elected Councillors.

Information is power, it is said, and without a strong interest in pursuing an issue, most ratepayers will not make the effort to critically appraise decisions being made on their behalf by their Council. This is especially so with respect to 'garbage', which for most folk, is a matter of 'out of site, out of mind'. So it is relatively easy for Council to control ratepayer reaction to its waste management policy proposals simply by withholding information.

A Committed Community Group

In the case of this landfill proposal, Council's initial declaration via a newspaper announcement in 2002, of its intention to build a new landfill in the Gara Valley served to galvanise the energies of valley residents by virtue of its being located adjacent to Armidale's back-up water supply. This apparent illogicality instigated immediate and deep-seated suspicion of Council's *modus operandi* and a local protest group formed spontaneously (the Gara Valley Environment Preservation Association – GVEPA). Through its hurried research, in preparation for a presentation to Council in December, 2002, its basic understanding of the inadequacies of current landfill technology was established. From that time on, this group has refined and deepened its knowledge about landfill and environmental issues, has remained committed to critically appraising Council's proposals and to sharing its insights with the wider public. As I see it, if this group had not 'hung in there' over the last (almost) eight years, the landfill proposal would, very likely, already be approved.

But the going has been tough, and the group has been small, with limited signs of success in rousing a seemingly apathetic rate-paying public to engage the issues! Further, there appears to have been a decided reluctance on the part of the highly educated, expert academic community, to take a stand on the issues, not the least being, perhaps, because so many of them are sub-contracted specialists who have been engaged by Council for consultancy work on this proposal (and others) and who look forward to maintaining that relationship with the Council into the future. In a small city environment like Armidale, there are few major employers who require such expert advice.

Consultant's Rule

It seems to me that this single most significant factor driving the information flow surrounding the landfill proposal has been the fact that BOTH the project development process and the associated public relations mechanism have been out-sourced by the Council. This means that the ADC is effectively positioned at 'arms length' from the whole process as far as knowledge about it, and control over it, is concerned. AECOM has been retained to provide the technical and management expertise for the project while EA Systems has been engaged to undertake formal consultation with the public. It appears as though a small group of Council Officers together with a couple of key, elected Councillors maintain liaison between the ADC and the Consultants so that the flow of information is readily controlled. *Whatever the situation is in this regard, the one clear reality is that despite Council's rhetoric about open and transparent communication, in the case of the landfill project, communication has been quite the opposite.*

As I demonstrate below, Council's power elite has acted to withhold sensitive information (specifically regarding the EPBC's ruling and reasoning) from the public, presumably out of fear that rational argument generated by that information might result in a groundswell of opposition against the proposal. *To the extent that this is the case, Council's actions may well have been more about that power elite 'getting its own way' than about the development of a proposal that is in the best interest of the community at large and the environment in particular.*

Each of the three main 'players' is the subject of further reflection and comment below.

AECOM's Role

As an 'industry expert', companies like AECOM enjoy a high reputation within local government S002b_1 circles. They marshal pertinent expertise for specific purposes and represent a significant 'authority figure' within the field. Evidence of this ascribed authority is apparent in the ready acceptance of their assertions that, for example, a landfill can be built anywhere, the technology is available and it is just a matter of how much money might be needed to do it. In this vein, the *Regional Landfill Siting Study* Report stated[1]:

> *Unless a site is specifically excluded by way of legislation/planning, it could always be developed into a landfill, dependent upon what mitigation measures are required to make it comply with both the DUAP and EPA Guidelines. In these instances however, cost considerations then become increasingly important.*

We heard this said many times during the deliberations that were mediated by Maunsell personnel during the process that led to that Report, and were similarly reassured by ADC Officers from the outset in 2002. Implicit in this rhetoric, is the assumption that building a landfill is a routine matter without any significant technical uncertainties at all.[2]

In the case of leachate loss from a landfill, the Consultant's strategy appears to have been to first to deny that any technical problems might exist, and if criticisms and question persist, only then move

[1] Maunsell, 2004, *Regional Landfill Siting Study: Final Report*, Maunsell Australia, p. 93

[2] Interestingly, when consulting with Council engineers from other Councils where new landfills have recently been built, GVEPA members encountered this same message. It may well be an industry norm!

to a position of acknowledging problems while energetically asserting that 'stringent' mitigation measures will be put in place to address those problems, and furthermore, this again is a routine, straightforward matter. S002b_1

Such reluctant acknowledgement and willingness by the proponent to address technical deficiencies that could result in environmental degradation, appears to indicate an assumption that preserving the environment is less important than is keeping the costs as low as possible in the design and construction of the facility. Throughout this campaign, we have been regaled by ADC Waste Management personnel and key Councillors alike, asserting that we clearly do not know 'what a fantastic new facility' it is that they are planning!

In the light of this persistent, 'insider' rhetoric, I must assume that AECOM has been in the 'driving seat' in terms of controlling the information flow about the landfill proposal. As I see it, that information has been strongly biased towards offering procedural descriptions and soliciting community statements of concerns, with almost no information being provided about the substantive, technical challenges of building landfills that might assist the community in understanding those challenges within the context of its local environment.

EA System's Role

EA Systems has had a dual role in the development of the EA. It is a specialist environmental agency that has been contracted by AECOM to produce key documents such as the *Flora and Fauna Assessment*[3], as well as the formal communication interface with the local community. S002b_2

The primary vehicle for communicating between project management and the community has been the *Community Newsletter*, commonly a folded A4 page printed both sides. To date there have been 7 editions, the first in October, 2005 and the seventh in March 2010[4]. In general, these have been descriptive pieces that outline the progress of the project without providing any *content of a substantive kind about the challenges being dealt with*, all of which portrays a 'steady as she goes' impression in the public mind.

This theme was continued in the August 2007 Newsletter when the public were informed that[5]:

> *Council has recently submitted a referral to the Department of Environment and Water Resources (DEWR) to determine if the proposed landfill requires approval under the Commonwealth Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act). This is the Australian Government's key piece of environmental legislation which protects matters of national environmental significance.*
>
> *Although no significant impact on matters of national environmental significance are expected, the submission continues Council's work to minimise potential environmental impacts of the proposal and work through all relevant approval processes.*

[3] See EA, Appendix E.

[4] These can be accessed at http://www.armidale.nsw.gov.au/environment/95838/95855.html

[5] See http://www.armidale.nsw.gov.au/files/18894/File/CommunityNewsletter_4.pdf no pagination

Two comments are pertinent. First, is the clear communication that again, it is 'steady as she goes' because the Consultant has declared that 'no significant impact' is expected[6]. The public should have no concerns about this routine procedure. Anecdotally, we have been told by Councillors that they were assured that this process was merely a routine, procedural issue.

Second, I received this Newsletter by post on 4 September, accompanied by a letter dated 31 August that alerted us to the related Public Exhibition period for the Referral with the reassurance that (See Appendix 1):

> *You will have an opportunity to review the Environmental Assessment report during the public exhibition period.*

But elsewhere in the Newsletter we read that

> *Public comments will be considered by the decision-maker and can be submitted to the DEWR from 23 August until 5 September.*

Note the dates! *This crucially important opportunity for GVEPA members to raise their concerns at the State and Commonwealth level for the first time was about to close to us, just one day after we had been notified about it. One GVEPA member received his notification 4 days after the close date.*

Note too that the informing letter was not written until mid-way through this short period of public exhibition. For GVEPA members, it was difficult to not conclude that this was a deliberate attempt at minimising the chances of critical submissions reaching the EPBC Referral section in time to be considered! We scrambled to complete a submission, however, assisted greatly by the Environment Defender's Office (Lismore Office), that was critical of the proposal along the same lines that the EPBC judged to be of concern.[7]

Community Newsletter No. 5 was published in April, 2008 and reported the EPBC's decision, of 1 October 2007 that the proposal would be a 'Controlled Action' and noted that DEWR's main concern related to 'potential for pollution' of the Oxley Wild Rivers National Park. **The choice of words here is instructive, especially given the likelihood that this decision could arouse public concern.** What the EPBC actually stated was that the proposed landfill[8] S002b_3

> *... will, or is likely to, have a significant impact on the World Heritage values of World heritage properties and the National Heritage values of National Heritage places. I therefore decided on 1 October 2007 that the proposed action is a controlled action and that the controlling provisions are sections 12 and 15A (World heritage properties) and sections 15B and 15C (National Heritage places).*

Compare this transcription with the reporting of it in *Community Newsletter No. 6*[9]:

[6] In 2002 GVEPA made a PowerPoint presentation to Council that outlined the abundance of evidence available indicating that all landfill must be assumed to leak, sooner or later. We also pointed out that sensitive ecologies existed downstream which would likely be polluted by a landfill. Clearly Council was not receptive to such argument.

[7] See http://www.worldheritagedump.com.au/Briefing/GVEPA%20Submission%202008%20proofed.pdf

[8] EPBC, 2007, STATEMENT OF REASON FRO DECISION ON CONTROLLED ACTION UNDER THE *ENVIRONMENT PROTECTION AND BIODIVERSITY ACT 1999*

[9] See http://www.armidale.nsw.gov.au/files/63455/File/Community_Newsletter.pdf , p.2

S002b_3

> *The project has previously been declared a "Controlled Action" under the Commonwealth's Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) on the basis the proposed landfill would have the **potential** to impact on the nearby Oxley Wild Rivers National Park, **unless suitable mitigative measures are put in place.** **(my emphasis)***

Notice here the *softening of 'will, or is likely to' by the substitution of 'potential to'* coupled with the implication that the EPBC is sanctioning the use of 'mitigative measures' as a solution to the problem! **This is a clear ploy to assure the public that the way ahead is known and that there isn't a real problem.**

It is instructive also to note that this 'interpreted' version of the EPBC ruling was made in November, 2008, more than a year after the original ruling, and shortly after its long-term Chair of the Council Waste Committee broke ranks to state that he had just become aware of the EPBC's reasoning, and felt compelled to voice his disquiet with the proposal. It is significant to note that he only got access to this information because GVEPA obtained a copy directly from the EPBC and publicised it: to that date, **Council had not made that knowledge available to its Councillors! (see below, p. 8).**

But as we have argued below, it is almost certain that the proponent had the full text, probably as early as November, 2007!

ADC Liaison Group's Role

Another indicator of the ADC's apparent attempt to suppress information about the essence of the EPBC's concern that leachate might pollute the Gondwana Rainforests of Australia World Heritage Area via the Oxley Wild Rivers National Park is evident in the content that the Council's website has displayed regarding the landfill. The entry entitled *'New Landfill Facility'* has been substantially captured as Appendix 2 and **I draw attention in particular to the sub-section entitled 'What is Currently Happening' (see below, p. 15) where for the period 'February 2006 to current' there is absolute silence about the EPBC decision of 2007! It is as if it never happened!!**

S002b_4

The strategy of not referring to the EPBC/DEWR role in the final decision-making process was again evident in a recent interview on local ABC Regional radio with a Council spokesman, in which he stated that the final decision would be made by the DoP/Minister.

S002b_5

In that same interview, the spokesman was asked about whether or not the landfill was to be Class 2 (non-putrescible) to which he replied that it would be licensed to receive putrescible waste but that Council *would strive to operate it* as a non-putrescible facility. This is another recurring theme that appears to be aimed at lulling the public into thinking that there is no reason for concern about environmental issues. In a recent meeting with Mr Torbay, our local State MP, he stated that he had been phoned by a Councillor, also to assure him that the landfill would be operated as a non-putrescible facility!

Further on this strategy of misrepresenting the reality that the landfill being sought will be licensed as a putrescible facility because Council needs that capacity, Council's website includes the following statement under the heading of Waste Strategy, 2010 (see p. 11):

> *Armidale's new landfill is proposed to be essentially run as a non-putrescible landfill.*

S002b_5

> *Details of the proposed changes to our current services and processes that will facilitate this and also to further improve waste recovery, re-use and minimisation of waste to landfill are outlined in "Waste Strategy 2010".*

The wording here is misleading, I suggest: what does it mean to say that the landfill will be '*essentially run as a non-putrescible* 'facility? *It is either putrescible, or it is not* – there is no degree of shading between the two! Presumably the aim of such statements is to lull the community into the opinion that a 'little bit' of putrescible waste will be alright. That same kind of thinking was evident within Council circles also during a Public Forum on the landfill in 2008, when in response to a question the Officer suggested that we all live in an environment with poisons all around us, so does a bit more really matter!

Council started to run this 'non-putrescible' line shortly after the EPBC's ruling was announced in 2007, and presumably in full knowledge of the EPBC's reasoning. GVEPA sought formal acknowledgment of that shift in focus, on several occasions, but our letters remain unanswered (See Appendix 3 below).

Council's Refusal to Communicate

S002b_6

It has been a matter of great disappointment to GVEPA that our repeated requests for information from Council about aspects of the landfill proposal have been essentially ignored. I share below a record of those attempts by letter (in my capacity then, as President of GVEPA, I also had informal meetings with both the Mayor and General Manager on separate occasions):

- 3 March, 2008 – letter to Mayor (see Appendix 4) seeking advice from Council about the reasons for the EPBC Ruling. GVEPA had only received the summary decision at that stage and we assumed that Council would have access to the full documentation
  NOTE: we learned later that Council most likely had received those data in early September, 2007.

  The Mayor replied, indicating that he had asked an appropriate Council officer to discuss the matter with us. That never eventuated.
- 2 June, 2008 – letter to Mayor (see Appendix 3) advising of the failure of Officers to respond to GVEPA and seeking further clarification of public statements suggesting the Council was planning for a Class 2, rather than Class 1 landfill, other costs etc.
  No response was received.

By this stage GVEPA had decided that the Council were either unable or unwilling to share information with it, and had already embarked upon an alternative course of action. Our first action was to write to Mr Tony Windsor (we had conducted several meetings with both Mr Torbay and Mr Windsor to seek their assistance and promote their understanding of GVEPA's concerns) asking him to obtain the EPBC 'Reasons' document directly through the DEWR.

- 12 June, 2008 - Letter to Councillors, providing them with GVEPA's data, a copy of its submission on the Referral to the EPBC and the text of the Referral Decision (see Appendix 6). *As in previous cases, there was no response to this communication form any Councillor.*

- 15 July, 2008 – letter to Mayor (See Appendix 5) again seeking responses to our previous letters, but *again no response.* S002b_6
- 18 June, 2008 – Submission the ADC Management Plan & Budget (See Appendix 7) in which we drew attention to the mandated roles of Councillors, both as individuals and Council members, to educate the community and lead discussion and development of policy in collaboration with the community.
  Here again, no response was received.

While it is easy to conclude that our repeated attempts to engage the Council in discussion over the landfill were in vain, *it might also be possible that the pressure so exerted was having some effect.* When in late July or early August we received from Tony Windsor a copy of the full reasons (See Appendix 8) for the EPBC decision of 1 October 2007, Councillor Herman Beyersdorf finally broke the silence. His comments are instructive, to say the least.

A Welcome Response, at last!

Cr Beyersdorf's Press Release was reported in the Armidale Express[10] and most succinctly portrays his understanding of the situation at that time:

> *Cr Beyersdorf was reacting to a "Referral Decision", a document of 5 pages, of the former Federal Department of the Environment and Water Resources (now the Department of Environment, Water, Heritage and the Arts or DEWHA) dated 8 November 2007, but not made available to Councillors (as part of a lengthy documentation of several hundred pages) until 2 July 2008.*
>
> *"I feel extremely disappointed that I as Chair of Council's Waste Management Committee was not made fully aware of this document until very recently", Cr Beyersdorf said. "Prior to this date, we had only been made aware of a one-page document entitled "Referral Decision – Controlled Action", and it was implied that this "Controlled Action" was only another routine bureaucratic hurdle."*

A couple of observations are needed here:

First, it now seems highly likely that the ADC had the full EPBC Reasons document throughout the period that GVEPA was asking for it: the Council was attempting to keep its damning logic 'under wraps'.

Second, this same strategy of withholding crucial information from GVEPA and the community, that was necessary to make informed judgements about the efficacy of the overall proposal, was being extended also to the majority of elected Councillors, including the Chair, of the Waste Committee. They had been portraying the very real technical challenges implicit in the EPBC's reasoning as *'only another routine bureaucratic hurdle'.*

[10] The Armidale Express, Wednesday, August 13, 2008, p.10

The Enduring Legacy of Controlling Information

As I noted early in this paper, 'information is power' and by controlling the flow of information into the community, the proponents appear to have effectively constrained public awareness of the environmental challenges and potential negative consequences that can be expected to flow if this landfill proceeds. Perhaps not in my lifetime, but flow they most probably will, for later generations to deal with. So much for inter-generational equity! S002b_7 S002b_8

In the immediate term, one distressing effect of the exercise of this power appears to be almost total disengagement of some Councillors from the whole process. *Several Councillors have told us, in private, that they haven't even read the current EA that is on Public Exhibition, because they have been assured that approval is a 'done deal' and to protest is futile.*

GVEPA's fear is that this same disengagement from the issues could be fairly widespread within the community. To the extent that this is so, then the number of thoughtful submissions received by the DoP by the c.o.b., 6 August, 2010 might be disappointingly small!

But it is possible that the proponent has sought to realise a different enduring legacy. It is possible that the proponent, through controlling the information flow and consequentially minimising community disapproval of its landfill proposal, has sought to buy sufficient time to progress the project to the point where there is a significant economic incentive to not abandon it. We have not seen recent figures of expenditures to date, but understand that in excess of $1 million or ratepayers funds has already been committed. GVEPA hopes that Governments will recognise that preservation of a World Heritage ecology must not be prejudiced by such crass tactics.

Appendix 1

EAS SYSTEMS
ENVIRONMENTAL & AGRICULTURAL SCIENCE & ENGINEERING

62 Glen Innes Road
PO Box 1251
ARMIDALE NSW 2350
Telephone: 02 6774 8333
Facsimile: 02 6774 8334
info@easystems.biz
www.easystems.biz

ABN 67 061 536 281

Our Reference: 20967 19180

31 August 2007

[redacted]

Dear Mr & Mrs Laird,

Re: New Landfill Information Leaflet Number 3

Please find enclosed the fourth information leaflet for the proposed Armidale Dumaresq landfill site. The aim of this leaflet is to provide updates of the progress of environmental investigations for the proposed new landfill. Further information is available from the Armidale Dumaresq Council website.

The approvals process for this project requires the preparation of an Environmental Assessment in accordance with the Environmental Planning and Assessment Act 1979. All comments will be taken into consideration in the preparation of the Environmental Assessment report for submission to the Minister for Planning (NSW Government). You will have an opportunity to review the Environmental Assessment report during the public exhibition period.

If you have any queries, please do not hesitate to contact:

Dr Liz Broese, Community Liaison Manager
E.A.Systems Pty Limited
PO Box 1251
ARMIDALE NSW 2350
Phone: 02 6774 8333
Email: newlandfill@easystems.biz

Yours sincerely

E A Broese-Jeerse

Liz Broese
Environmental Scientist
E.A. Systems Pty Limited.

Appendix 2

ADC Website

Extract edited from 'New Landfill Facility'

http://www.armidale.nsw.gov.au/environment/95838.html

Waste Strategy 2010

Last modified: August 3, 2010 - 4:32 PM

Armidale's new landfill is proposed to be essentially run as a non-putrescible landfill.
Details of the proposed changes to our current services and processes that will facilitate this and also to further improve waste recovery, re-use and minimisation of waste to landfill are outlined in "Waste Strategy 2010".

Newsletters & Community Involvement

Last modified: August 3, 2010 - 4:15 PM

Community input is an important part of the Environmental Assessment process. The Environmental Assessment will consider issues and concerns raised by the community and other stakeholders during its preparation. Consideration of community issues and concerns in the Environmental Assessment and concept design is essential to ensure that a sustainable solution is achieved.

The community will be provided with information throughout the project development stages via:

- **Newsletters and Press Releases**
- **Public Displays**: Three Public displays are planned to inform the community about progress for the new landfill facility.
- **Contact the Community Liaison Manager**: Obtaining the views, suggestions and opinions of the community is an important part of the Environmental Assessment process. See Community Feedback Form.

You may download the Community Newsletters or the feedback form below.

If you have comments or submissions, please addresss to

Community Liaison Manager
E.A.Systems Pty Limited
PO Box 1251, ARMIDALE NSW 2350

Phone: 02 6771 4864 02 6771 4864
Email: newlandfill@easystems.biz.
Free call no. 1800 103 885 1800 103 885

Contact details
Armidale Dumaresq Council

02 6770 3600 02 6770 (ph)
council@armidale.nsw.gov.au

Online Services

Download files

Community Newsletter No. 1
(pdf 425 kb)

Community Newsletter No. 2
(pdf 543 kb)

Community Newsletter No. 3
(pdf 201 kb)

Community Newsletter No. 4
(pdf 571 kb)

Community Newsletter No. 5
(doc 51 kb)

Community Newsletter No. 6
(pdf 61 kb)

Community Newsletter No. 7
(pdf 46 kb)

Feedback Form (pdf 45 kb)

Planning and Development of New Landfill Site

Last modified: August 3, 2010 - 4:16 PM

This section provides current information on the status of the new landfill with respect to planning, approval, design and development. A range of site selection studies have been completed to determine a suitable site for the proposed new landfill. A site selection study was completed in March 2004 with a site located 12 km east of Armidale selected for further assessment. This site includes land from "Edington" and "Sherraloy" properties which are accessible off Waterfall Way.

The community will be kept informed at all times about the Environmental Assessment and concept design at key project development stages.

How to find and use this information: You will find below, planning and development information on the proposed landfill facility. Some of the information may have an attachment relating to the subject. If this is the case, it will be hyperlinked directly to it. The attachments may also be found at the bottom of the page. If you have any concerns, please contact council or fill out the 'Make a request' form available below.

New Landfill Project Schedule

- November 2009 Program | January 2009 Program | May 2008 Program | October 2006 Program | April 2006 Program.

The project plan is a schedule of the New Landfill Project. Please download the project plan to see the proposed project schedule. The most recent project update is November 2009.

Concept Design

A preliminary concept design will be prepared in parallel with the Environmental Assessment.

The concept design of the landfill has been prepared in accordance with the NSW Department of Environment and Conservation Environmental Guidelines for Solid Waste Landfills. These environmental guidelines focus on the environment management of landfills and describe how the landfill should be constructed, operated, closed and rehabilitated to minimise environmental impacts.

Prevention of water pollution is one of the key environmental goals of the proposed landfill.

* The barrier system will be installed at the base of the landfill.

* Preventing water from entering the landfill by diverting surface water away from the landfill area.

* The waste will be routinely protected to minimise ingress of water.

* Installing a final capping layer over landfill areas in which no more waste is to be placed.

* Water which has come into contact with waste (leachate), will be collected from the landfill and will not be permitted to enter any rivers or creeks. A leachate pond will be used that will be designed so that it can hold all of the leachate produced. The leachate will managed and may involve a combination of irrigation over areas of the landfill, evaporation in the leachate pond and re-injection into the landfill (this assists the biodegradation process).

* A temporary sedimentation pond, to prevent rainwater containing sediments (soil, etc) from entering the Gara River.

The Landfill will be landscaped with native vegetation. Landscaping will aim to reduce the visual impacet of the new landfill and provide a wildlife corridor for fauna.

The concept design of the proposed landfill is available for download. Please note, that the concept design shows the final layout of the landfill, at time of closure after a perios of appromimately 50 years. Due to the long lifespan of the landfill, it will be developed in stages. The staged development of the landfull minimises the area of land disturbed at any one time. The landfill will be divided into five segments (cells) which will each take approximately 10 years to fill with waste.

Map

A map of the proposed new landfill site is presented. The hatched area includes a buffer zone to allow the incorporation of various landscaping and design measures.

The proposed new landfill site is yet to be confirmed.

The proposed site will be subject to a rigorous approvals and environmental assessment process.

At this stage of the project development, we are at the preliminary site investigations, which will confirm the suitability of the site for use as a landfill.

Approvals Process

Details on the approvals process and requirements for assessment.

Over the past few months, the NSW planning system and the Department of Planning (DoP, previously the Department of Infrastructure Planning and Natural Resources) has been subject to major reforms.

The principal environmental planning instrument (EPI) in NSW, the Environmental Planning and Assessment Act 1979 (EP&A Act), now incorporates a new set of provisions under Part 3A to assess projects classified as ?Major Projects?. Following the commencement of Part 3A on 1 August 2005, the proposed new landfill is identified as a Major Project under the associated State Environmental Planning Policy (Major Projects) 2005. Approval for the new landfill site will be determined by the Minister for Planning (NSW Government).

For further details on the NSW Planning Reforms, visit
www.planning.nsw.gov.au/planning_reforms/index.asp

A Planning Focus Meeting was held on 9 June 2005 with representatives from relevant Government agencies. Director General Requirements have subsequently been issued by the then Department of Infrastructure, Planning and Natural Resources (now Department of Planning) for the Environmental Assessment. These form the scope of the Environmental Assessment.

The Environmental Assessment will be publicly exhibited for community comment over a 6 week period. Written submissions are welcome at this stage and will be considered prior to a decision being made on whether to proceed with the project or not.

What Is Currently Happening

March 2005 to January 2006 - Preliminary site investigations are currently being undertaken at the proposed new landfill site.

These investigations include:
* Hydro geotechnical study to analyse the soils, geology and groundwater in the immediate area. This has involved the use of a drilling rig to bore test holes.
* Flora and fauna surveys to determine the extent of species present or potentially present on the site and any species which may be threatened or endangered. An autumn survey has been completed and a spring survey is scheduled in March 2006.

February 2006
Preliminary site investigations have been undertaken which do not identify any issues that would preclude the selected site for use as a landfill. We have therefore progressed to the next stage, which will be to further investigate the use of the proposed site as a landfill. We are now able to start the concept design and environmental assessment stages. These stages will be undertaken concurrently together to influence design and inform assessment. Details of the next stages are:
Environmental investigations to assess the potential environmental impacts associated with the construction and development of a new landfill. The environmental assessments include hydrology (surface water and ground water), flora and fauna, archaeology and cultural heritage, noise, air quality, traffic and transport, land use, visual impacts and amenity.

Concept design to ensure that the landfill is designed in accordance with NSW Department of Environment and Conservation Environmental Guidelines for Solid Waste Landills.

February 2006 to current

The Environmental Assessment is now being prepared, which will assess the potential impact to the environment from the operation of the new landfill. The assessment will examine aspects relating to:

the physical environment - land use, soils, surface water, ground water, air quality, noise
biological environment - flora and fauna, pests and weeds
community issues - social, economic, heritage, traffic, amenity and hazards.
Liaison with government departments is being undertaken, in order to clearly identify any issues that should be addressed during the preparation of the Environmental Assessment. The following NSW government departments have been consulted with:

Department of Environment and Conservation
Department of Natural Resources
Northern Rivers Catchment Management Authority
Department of Primary Industries - Fisheries
Rural Lands Protection Board.
The local Aboriginal community is also being consulted with, to determine if items or areas of indigenous significance are located on the proposed new landfill site.

About the Proposed New Landfill

Details such as capacity, waste acceptance criteria and life of the proposed new landfill are presented here. This will influence the design and environmental assessment.

The following details the requirements for the new landfill which will influence the concept design and environmental assessment.

Capacity and Waste Acceptance
The new landfill will be designed as a Solid Waste Class 1 landfill (i.e. designed so that it may accept putrescible wastes). The new landfill will not be licensed to accept clinical (hospital) waste and chemicals.

It is intended for the proposed regional landfill to accept over 750,000 tonnes over the life of the landfill. It is anticipated that approximately 15,000 tonnes will be diverted to the landfill annually from the Armidale Dumaresq, Uralla and Guyra Local Government Areas.

Based on the capacity of the proposed new landfill, and estimated annual waste acceptance quantities, the life of the new landfill will be in the order of 50 years.

Development Area
The total development area would be approximately 100 hectares, including buffer zones. The footprint of the landfill within the development area however will be determined further during the concept and detailed design phases.

Landfill Operation
An Environmental Protection Licence from the Department of Environment and Conservation will be sought if the proposed new landfill is approved. If the new landfill is approved, stringent environmental conditions will be set for the management and operation of the new landfill over its entire life.

There will be no direct public access to the landfill. Waste will continue to be received and processed at the existing waste transfer station on Long Swamp Road, with non-recyclable wastes being compacted and transported to the new facility.

Alternative Waste Technologies
Armidale has an enviable record of achievement in Waste Management. In 2004 Armidale came first in NSW for its category of Council for recycling, which is now at 450Kg per capita, an increase of some 50% in the last 5 years. In 2003, Armidale opened its new Waste Transfer Station at the Long Swamp Road landfill site. This means all refuse is sorted for maximum recycling, green waste is composted and strict control is exercised over the type of refuse going to landfill.

Council aims to dramatically increase recycling to the point of reducing landfill by 60% - 80% in the next decade. Armidale Dumaresq Council will therefore continue investigating alternative waste processing facilities and/or resource recovery facilities at the existing Waste Transfer Station at Long Swamp Road, with the overall aim of diverting wastes from the landfill.

Environmental Assessment

The approvals process requires the preparation of an Environmental Assessment in accordance with the Environmental Planning and Assessment Act 1979. Approval will be sought from the Minister for Planning (NSW Government).

Any prospective landfill site will be subjected to the most rigorous investigation. This will be done through the completion of an Environmental Assessment which will be prepared in accordance with the Environmental Planning and Assessment Act 1979 for submission to the Minister for Planning (NSW Government).

A range of investigations will be undertaken as part of the Environmental Assessment, including:

* Hydrology and water quality
* Soils, geology, landform,
* Flora and fauna,
* Archaeology and cultural heritage,
* Noise,
* Air quality and odour,
* Traffic and transport,
* Landuse, landscape and visual amenity,
* Social and economic assessments.

The results of these investigations will assist in the assessment of environmental issues and planning for the site. A preliminary concept design for the proposed new landfill site will also be prepared in parallel with the Environmental Assessment.

Community input is also important and essential to ensure that a solution that best satisfies community interests is achieved.

Contact details
Armidale Dumaresq Council
02 6770 3600 begin_of_the_skype_highlighting 02 6770 3600 end_of_the_skype_highlighting (ph)
council@armidale.nsw.gov.au

Online Services

» Make a request

Download files

Armidale Regional Landfill Project Program, November 2009 (pdf 85 kb)

Armidale Regional Landfill Project Program, January 2009 (pdf 90 kb)

Armidale Regional Landfill Project Program, April 2006 (pdf 101 kb)

Armidale Regional Landfill Project Program, October 2006 (pdf 96 kb)

Armidale Regional Landfill Project Program, May 2008 (pdf 90 kb)

Concept Design (pdf 257 kb)

Site Location Map (pdf 294kb)

I want to...

book a venue

go to the library

get rid of rubbish

pay my rates

apply for a building permit

Community Directory

Contact

Council Meetings

Appendix 3

Letter to Mayor, 2 June, 2008

GARA VALLEY ENVIRONMENT PRESERVATION ASSOCIATION INC.

Mr Peter Ducat
Mayor
Armidale Dumaresq Council Chambers
Rusden Street
Armidale NSW 2350

Re: Armidale Regional Landfill Proposal

Dear Mayor,

Thank your for your prompt reply to my letter in March, 2008 seeking, *inter alia, details of precise reasons given by the Australian Government for the EPBC ruling* that the landfill will be a controlled development. In that, you indicated that you had referred the request to Council officers for their response. I regret to inform you that more than two months later, I have still received no response from them. I trust you will remind them of their obligations to respond to reasonable queries from ratepayers.

On more recent matters, I note with interest the several media reports concerning aspects of the landfill development process, and ask for Council's responses to the following requests:

1. Can you confirm that Council is now developing a proposal for a Solid Waste, Class 2 landfill, instead of the Class 1 facility that was the basis of the EPBC Referral?

2. I note Councillor Whan's claim that "Council officers have already explored that option (ie. Shipping non-recyclable waste elsewhere) and it is a frightening option, both economically, and from a sustainability point of view."

   I believe that the public should be able to review the assumptions and analysis that underpin this assertion, and hereby request that a copy of the relevant data be made available for public scrutiny.

3. I note also Councillor Whan's statement that "there would still be some residual which cannot be economically recycled". I am uncertain about the nature of this 'residual' and seek clarification on that point. What kinds of waste remain after AWT that will then need to go to landfill or be otherwise disposed of?

Yours sincerely,

[redacted]

2 June, 2008

cc. [redacted]

Appendix 4

Letter to Mayor, 3 March, 2008

GARA VALLEY ENVIRONMENT
PRESERVATION ASSOCIATION INC.

Mr Peter Ducat
Mayor
Armidale Dumaresq Council Chambers
Rusden Street
Armidale NSW 2350

Re: Armidale Regional Landfill Proposal

Dear Mayor,

We note the Australian Government's decision, on 1 October, 2007, under the EPBC Act (1999) that the Armidale Regional Landfill will be a ***controlled action*** requiring 'assessment and approval by the Australian Government before it can proceed' because it is deemed:

likely to have a significant impact on:

- ***World Heritage properties (sections 12 and 15A)***
- ***National heritage places (Section 15B and 15C)***

I seek clarification from Council about:

1. the precise reasons for the decision,
2. the actions that Council and its Consultants are taking in response to the decision,
3. at what point further community involvement will be called for, and
4. the likely time-frame for the finalization of this matter

I ask these questions directly of you because there has been no updating of the ADC website on landfill matters since 31 August, 2007 when Community Newsletter No.4 was issued, and no update on substantive development issues since 29 October, 2006.

Yours sincerely,

[redacted]

3 March, 2008

cc. [redacted]

Appendix 5

Letter to Mayor, 15 July, 2008

GARA VALLEY ENVIRONMENT
PRESERVATION ASSOCIATION INC.

Mr Peter Ducat
Mayor
Armidale Dumaresq Council Chambers
Rusden Street
Armidale NSW 2350

Re: Armidale Regional Landfill Proposal

Dear Mayor,

I write again to request a formal response from Council to my two previous letters seeking clarification of aspects of Council's current Landfill Proposal, both of which remain unanswered. Let me remind you of those letters:

1. dated 3 March, 2008

This letter ***restated*** the request (of 3 March) for clarification of Council's understanding of the EPBC decision of October, 2007 and sought amplification of the data underpinning some of Councillor Whan's assertions reported in the press about aspects of AWT and the transport of non-recyclable waste elsewhere.

Your prompt acknowledgement of receipt of that letter was appreciated. In it you indicated that you had passed it on to Council Officers for a response. *To date, none has been received.*

2. dated 2 June, 2008

The receipt of this letter has never been acknowledged.

When I spoke with you about this letter at the Public Meeting on the Landfill (12 June, 2008) you said that you would 'look into it', but still I have no response.

As both a ratepayer and President of a formally constituted community group that is concerned about the efficacy of the new landfill proposal, I believe that it is my right to expect a prompt response from Council to my letters. Accordingly, I once again request you to make available the data sought.

Yours sincerely,

[redacted]

15 July, 2008

cc. 1. ADC Councillors
2. Mr Richard Torbay

Appendix 6

Letter & CD to Councillors, 12 June, 2008

GARA VALLEY ENVIRONMENT
PRESERVATION ASSOCIATION INC.

Herman **Beyersdorf**
Chair, Waste Management Committee
Armidale Dumaresq Council
99 Arundel Drive
Armidale NSW 2350

Dear Herman,

Re: Proposed Landfill Development

The CD enclosed with this letter contains information relevant to the proposed landfill development that was the subject of the DEWR Referral, dated 14 September, 2007. These data have been compiled by the Gara Valley Environment Preservation Association (GVEPA) from various public sources.

GVEPA's decision to release this CD stems from its concern that there has been very limited detailed information about the various issues raised by the proposed landfill from either Council or its Consultants. We hope that this package will go some way to redressing that information vacuum.

The CD contains three files:

1. **GVEPA's Power Point Presentation**, prepared for use with interested community groups.

2. **The EPBC decision**, as published on the EPBC website and dated 1 October, 2007, about the environmental acceptability the Armidale Landfill DEWR Referral (dated 2 August, 2007).

3. **GVEPA's submission** to the EPBC in response to the DEWR Referral.

We hope that you will take time to peruse these resources and integrate the information into all decision making regarding the current landfill proposal.

[redacted]

12 June, 2008

Appendix 7

ADC Management Plan & Budget, 2008-2011 Submission

GARA VALLEY ENVIRONMENT
PRESERVATION ASSOCIATION INC.

ADC Management Plan and Budget 2008-2011 Submission

Re: ADC Management Plan 2008/2011 Section 1 Page 10 Waste (also re: Operational management Plan 2008-2011 Section Two- Page 20 – Utilities-Capital Projects)

The Gara Valley Environment Preservation Association (GVEPA) seeks intervention by the Armidale Dumaresq Councillors to prevent the construction of a new landfill anywhere within the catchment area of the Oxley Wild Rivers National Park, which is part of the Gondwana Rainforests of Australia (GRA) World Heritage Property.

Notification of REFERRAL DECISION – controlled action
Armidale Regional Landfill, NSW (EPBC *200713646)*
This decision is made under [Section 75 and Section 871 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
Proposed action
Person named in the referral Armidale Dumaresq Council
Proposed action To develop a regional landfill on portions of Lot 2 DP 253346, Lot 1 DP 820271 and Lot 1 DP 253346 Parish of Gara, Armidale, NSW.
Referral decision: Controlled action
Status of Proposed action The proposed action is a controlled action.
The project will require assessment and approval by the Australian Government before it can proceed.

The EPBC Decision that:

"The project is likely to have a significant impact on:

- **World Heritage properties (Sections 12 and 15A)**
- **National Heritage places (Sections 158 and 15C)"**

should be ringing alarm bells for all Councillors. The costs involved in attempting to construct the first Landfill in history that will not leak will be excessive and, in the end, futile.

International reports (e.g. including the American EPA) constantly warn that despite the assurances and best efforts of technicians, all landfills should be expected to leak at some time in their lifetime, and they will keep on leaking!

GVEPA argues that water quality in the World Heritage Oxley Wild Rivers National Park inevitably will be threatened by this new landfill because

- international evidence indicates that no landfill can be assumed not to leak sometime within its lifespan – leachate will enter the World Heritage Property;

- there is insufficient data available about both the flood threat and especially about the nature and extent of the aquifer at the site for a landfill to be built with surety that neither of these factors could jeopardize its integrity.

Instead of perpetuating this insidious contamination, this 'once in a lifetime' opportunity to reduce stress upon the Gara River system must be taken by refusing approval for the proposed landfill to be constructed anywhere in the catchment area.

The time has come to take a step back and review the environmental and economic realities of trying to push through planning ($500000 Budgeted for New Landfill Planning and Design: proposed construction will be a minimum $12million plus $4million per cell plus land purchase costs) a Landfill that is highly unlikely to gain approval by the Federal Government.

Even if approval is given subject to stringent guidelines, the eventual failure of the Landfill and the pollution of the World Heritage Oxley Wild Rivers National Park will bring with it enormous additional costs for reparation to be borne by the ADC ratepayers of future generations. We must learn from the recent clean-ups necessitated by the Martin Street Pole Treatment Works and the Old Gas Works – both legacies of former Councils that no doubt thought their actions were responsible at the time!

It is unacceptable to GVEPA for ADC/Maunsell to argue that because the ADC has mismanaged its planning process, it should be permitted to built a landfill on a site that clearly violates Nationally Significant Environmental values and World Heritage obligations. If a new landfill must be built, then what is needed is a site that does not risk pollution of the World Heritage Gondwana Rainforests of Australia. All UNESCO World Heritage sites are admitted to the register because they are judged internationally to be 'places of "outstanding universal value"' and 'their protection is our shared responsibility'[11].

GVEPA's view is that since the proposed landfill is to be a regional facility, then the search for a suitable site should reasonably be extended to all Councils that are expected to be users of the facility.

GVEPA argues that the full, long-term consequences of this landfill being built cannot be anticipated while ever the FULL range of endangered/vulnerable species present in and supported by the Gara River, thence Oxley Wild Rivers National Park, is not identified. Consequently it is not possible to assert with confidence that no significant impacts upon threatened species of endangered ecological communities are likely.

We urge the elected Councillors, whose responsibilities are listed in the ADC's Draft Management Plan:

- To direct and control the affairs of the Council in accordance with the Local Government Act 1993.

[11] Extracts from 'The World Heritage Convention: A Flagship Programme for the Conservation of Biodiversity' 16 September, 2004.

- To participate in the optimum allocation of Council's resources for the benefit of the Council area.
- To play a key role in the creation and review of Council's policies, objectives and criteria relating to the exercise of Council's regulatory functions.
- To review the performance of the Council and its delivery of services, and the Management Plans and revenue policies of the Council.

and whose role as individuals is to:

- To represent the interests of the residents and ratepayers.
- To provide leadership and guidance to the Community.
- To facilitate communication between the Community and the Council (Section 232).

to take charge of this contentious and ill-advised development process by demanding full knowledge of all developments and by refusing to allocate the resources sought and to redirect the planning process along the lines outlined in this submission above.

[redacted]

Appendix 8

Letter to Windsor, 5 August, 2008

GARA VALLEY ENVIRONMENT
PRESERVATION ASSOCIATION INC.

Mr Tony Windsor
Member for New England
PO Box 963
TAMWORTH NSW 2340

5 August, 2008

Re: EPBC Reason for Decision

Dear Tony,

I write to extend to you the sincere thanks of the GVEPA membership for your effective representation of our concerns to both the Government (Mr Peter Garrett) and Shadow Ministry (Mr Greg Hunt). It was particularly pleasing to receive the full text of the EPBC reasoning as stated by the Assistant Secretary, DEWR, dated 7 November, 2007.

From our perspective, the EPBC reasoning is strongly supportive GVEPA's arguments throughout and strengthens our resolve to press ahead with our campaign of opposition to any new landfill anywhere within the World Heritage area's catchment.

We are continuing to identify relevant information resources which we are committing to revised versions of our CD and distributing to the public as the opportunity arises. We look forward to meeting with you and Mr Torbay on Thursday, 15 August, 2008 to discuss more fully the recent developments and seek your advice on future planned actions.

Thank you again, we are most appreciative of your efforts to assist us in this matter.

Best wishes

[redacted]

cc. Mr R Torbay, Speaker, NSW Parliament

S002c_1

Hi Megan,

Attached is the 2007 Submission by GVEPA on the Maunsell/ADC Referral to the EPBC. This submission was hastily written because GVEPA was not made aware of the opportunity to to make one until just a few days before the closing date (it was a designated 10 day exhibition period). Fortunately, the Environment Defenders Office Lismore) was a tower of strength in assisting us get it in.

Just in case you do not have the EPBC decision to hand, it is also attached it to complete the picture. GVEPA could not get a copy of the reasons for this decision through Council, so we asked our local Member, Tony Windsor, to get it. The 5-page statement by the EPBC is most readily accessed from the GVEPA website

http://www.worldheritagedump.com.au/EPBCdecision.asp

Thanks for your advice,

[redacted]

[redacted]

GARA VALLEY ENVIRONMENT
PRESERVATION ASSOCIATION INC.

RE: Armidale Dumaresq Council /Waste management (non-sewerage)/Armidale /NSW/Armidale Regional Landfill

Reference Number: 2007/3646

Email submission to:

Referrals Section (EPBC Act)
Approvals and Wildlife Division
Department of the Environment and Water Resources
GPO Box 787
Canberra ACT 2601

Email: epbc.referrals@environment.gov.au

Date and Time emailed: 3.45 pm, Friday, 14 September 2007

[redacted]

The Gara Valley Environment Preservation Association (GVEPA) seeks intervention by the Australian Government to prevent the construction of a new putrescible landfill anywhere within the catchment area of the Oxley Wild Rivers National Park, which is part of the Gondwana Rainforests of Australia (GRA) World Heritage Property.

GVEPA's Concerns

GVEPA believes that there are two complementary sets of concerns that justify such intervention:

1. Inevitable contamination of the inflowing water to the World Heritage National Park that can be expected to be on-going indefinitely, and

2. Increased threat, caused by pollution of the waterways and land clearing, to several threatened species on site, both fauna and flora, including one remnant of critically endangered Box-Gum Woodland.

GVEPA also asserts that there has been *inadequate exploration of alternative sites within the region for sites that would drain away from World Heritage Properties*, thereby relieving stress on the Gara-Macleay River systems that are the lifeblood of the Oxley Wild Rivers National Park. This is a crucially important issue because already the Gara River is acknowledged as being under dire stress from inadequate flow-rates (DEWR Referral, p.24), negative consequences being noted with respect to three threatened frog species (including the Booralong Frog) and the Oxley Wild Rivers National Park. *Relieving this river system of further stress due to contamination by landfill leachate thus becomes increasingly important. The current landfill proposal will do just the opposite*!

1. Threat to Water Quality

The security of leachate within the landfill is recognized by all as being central to the acceptability of the entire proposal. The claim made (DEWR Referral, 5.1.1, p.34) is that:

> *No impact ... is predicted due to stringent landfill design standards and contingency plans*

This same kind of phrase recurs frequently in the summary sections of its several commissioned specialist reports, no doubt seeking to establish a context of reassurance that all will be well: the experts will take care of all problems[1].

There are, however, several reasons why the soothing reassurances by the developers and their consultants should be examined closely. As Lee & Jones-Lee (2004, pp.6,7) have observed:

> *Landfill permit applicants and their consultants as well as some regulatory agency staff will claim that the eventual failure of the landfill liner system is of limited significance in causing groundwater pollution, since the landfill cover can keep the wastes dry, and thereby prevent leachate generation. ... While they would like to have others believe that that situation will continue to exist in perpetuity, it will not, because of the eventual deterioration of the low-permeability plastic sheeting layer in the landfill cover.*
>
> *Another deception with respect to landfill covers is that they can be effectively monitored to detect when moisture leakage through the cover occurs. ...*
>
> *Further, even if it were detected, the typical postclosure funding that is allowed does not provide adequate funds to determine where the landfill cover has failed and to repair it. ...*
>
> *... The situation is that no political entity, from the ... (federal to state to local levels of government) ... wants to be responsible for causing those who generate solid waste to have to pay for the true cost of its management/disposal. It is estimated that solid waste disposal that is truly protective of public health and the environment would double or triple the cost of solid waste management. Instead of increasing everyone's cost of solid waste management ... the political entities are opting for short-term protection, and passing these costs on to future generations in terms of lost groundwater resources and adverse impacts to the health, welfare and interests of those in the vicinity of the landfills.*

This extract challenges directly the implicit assumptions and assurances of the 'permit applicants' that current scientific knowledge and resources can guarantee a secure landfill design that will contain leachate indefinitely. **In GVEPA's view, this apparent reality clearly demands that unless we, as a society, are willing to knowingly cause pollution of the World Heritage Oxley Wild Rivers National Park, then this landfill proposal must be rejected.**

[1] Just why commissioned specialists would be in a position to make such an assertion on behalf of the ADC/Maunsell is something of a puzzle!

GVEPA notes the large degree of parallel between the scenario described above and two infamous chapters in the recent history of the Armidale Dumaresq Council regarding pollution of the environment, at least one of which did indeed cause health problems for citizens. Both the Martin Street subdivision (formerly a pole treatment site) and the old Gas Works sites were highly polluted by 'industries' that presumably were not regarded as problematic at the time of their respective inceptions, but which ultimately the scientific community and public alike recognized as being highly problematic and finally were 'rehabilitated' at great cost to subsequent generations of citizens and governments, rather than to those who actually created the pollution.

If Lee & Jones-Lee's analysis is accurate, and GVEPA has not encountered any substantiated evidence to suggest that it is not, then any landfill built in the present era must be expected to eventually cause both environmental pollution and to incur unknown costs that future generations will have to bear in its remediation. The risk is, it seems, that remediation will be ignored because of limited funding and apparent disregard for the consequences.

The fact that the pollution that will be released by the proposed Armidale Regional Landfill will ultimately degrade a World Heritage property makes it that much more problematic again.

This is a development that must not be permitted to proceed, ideally not in any location, but if it has to proceed somewhere, then not in the catchment of the Gondwana Rainforests of Australia.

So what goes on in landfills?

1.1 Why do Landfills will inevitably leak?

International reports (eg including the American EPA) constantly warn that despite the assurances and best efforts of technicians, all landfills should be expected to leak at some time in their lifetime, and they will keep on leaking!

The US EPA has identified the reason, in its draft regulations of 1988 (cited in Lee & Jones-Lee, 2004, p.4):

> *... even the best liner and leachate collection system will ultimately fail due to natural deterioration ...*

The chemical cocktail that inevitably builds up in a landfill is known to interact with clay liners and finally softens them so that increased fluid loss occurs. Even when plastic liners are used together with clay in a composite barrier, the chemical mix gradually attacks and weakens the plastics as well so that leachate contamination of groundwater is inevitable.

We note that the proposed landfill design is for a clay-only liner, one that is discredited in the US where clay-plastic composites are commonly required (and in some cases double composite layers are required). But even using composite liners, while the rate of leachate might be slowed

in the short-term when compared with that from a clay-lined landfill, the end result is much the same – leachate leakage will eventually occur.

Again Lee and Lee-Jones cite the US EPA:

> *Once the unit is closed, the bottom layer of the landfill will deteriorate over time and, consequently, will not prevent leachate transport out of the unit.*

It elaborated the mechanism, pointing out that the chemical changes that occur are not obvious, because they take place at the bottom of the landfill, so by the time they are detected in groundwater, it is too late – the damage has been done, is almost impossible to repair, and it will be inordinately costly to do so.

It should be noted that the time-frame involved in the production of leachate and its release into the environment appears to be remarkably long, in the order of hundreds of years (if not thousands of years – note the claim that a Roman built landfill some 2000 years ago is still producing leachate!!). In that sense, the problem might not necessarily emerge within the designated life-time of the landfill, but emerge it will, and keep on leaching toxins into the environment well into the future.

GVEPA has not found any evidence during its searching of international sources that refutes the above conclusions. Consequently, we argue that it must be assumed that inevitably, the proposed landfill will leak! It is only a matter of time.

Surprisingly, the DEWR Referral document appears to be silent on this issue! Rather, it outlines sketchily a 'containment and management strategy' that assumes that all leachate will be retained on site. GVEPA's consultant is critical of this aspect of it because (Appendix A, p.2):

> *... there is no mechanism put forward to deal with any inadequacies with the containment strategy (during the operation of the proposal) and the likely impact that any inadequacies would have on the water quality of the Gara River and therefore the broader impacts on the World Heritage National Park nearby.*

It is further concluded (p.3) that without much more detailed information about such issues as the reliability of the containment system, how its efficacy will be monitored, the potential impacts upon the environment should it fail (including the types of pollutants, their quantities and ecological implications) and a contingency management plan that would be implemented should it fail, then

> *... it is difficult to confidently conclude that the proposal will not have any significant impact upon the values of the adjoining World Heritage Areas, either directly or indirectly. This is particularly evident in light of the already degraded nature of the Gara River as a receiving water of the proposal, and a tributary of the greater Oxley Wild Rivers drainage.*

Such silence is extremely disappointing, indeed alarming, given the message that GVEPA has gleaned from the international literature that any landfill constructed in the World Heritage Oxley Wild Rivers National Park catchment will inevitably, sooner or later, pollute further that environment.

We say 'pollute further that environment' because it is our understanding that leachate has already leaked from the current ADC Landfill (see below, p. 9) and so must be assumed now to be polluting the World Heritage property to some degree. This situation must NOT be exacerbated by the building of another landfill elsewhere in the same catchment. It is essential that this once-in-a-lifetime opportunity be seized to cap the pollution being fed into the system rather than increase it. As it is, GVEPA expects that the current landfill will continue to deliver leachate into the Gara Rover for decades to come.

1.2 A Recent Failure

Closer to home, the Timbarra Gold Mine[2] episode stands as a powerful testimony to the fact that both industry consultants and the Government approval process alike cannot be relied upon to 'get it right'. No doubt the experts behind that proposal were confident that they 'had it right', and Government authorities obviously agreed, because cyanide leachate was involved. *But still it failed.*

One factor in the Timbarra case was unusually high rainfall. This could also be a factor in the Gara landfill proposal. Climate change is being widely blamed for extreme weather events and sooner or later we might expect the Gara region to experience extreme rainfall. Even without that circumstance, the site is known to be prone to flooding, as Council's previous consultant had already advised (GVEPA, Briefing Document, p.5 & Maunsell, 2004, p.67):

> *... the site is located mid-catchment, with potential for flooding and there is previous evidence of flooding at the site.*

We understand that the construction of a landfill in flood-prone areas is prohibited under EPA&A guidelines.

No doubt it is argued that the proposed landfill site is not flood prone, though local knowledge affirms that it is. Regardless, the acknowledged fact is that no relevant flood data exist, so an approximation has been made using average indicators and a 100 year projected water level has been estimated (DEWR Referral, p.25). The extreme weather events being encountered in recent years, however, must cast severe doubt over the adequacy of that safety margin. GVEPA's PowerPoint presentation includes a recent photograph of the main gully taken near where the landfill watercourse joins it. Even after just 58 mm of normal rain, the volume of run-off was impressive. When extreme rainfall does hit the area, then we must expect that local flooding will

[2] See for example, http://en.wikipedia.org/wiki/Timbarra_Gold_Mine, http://www.bigscrub.org.au/timbarra.html, and Appendix B, p.1.

be severe. We understand that the claim made in the Timbarra case was that water containment was designed to meet a once-in-400 year level.

But even if we assume that the risk of significant flooding is minimal, there is clearly uncertainty about the nature and extent of the existing aquifer near the site[3]. RCA Australia has reported (DEWR Referral, Appendix D, Section 6.10, p.17) that:

> *... Ref [7] requires that the groundwater flow and flow paths for all aquifers on a proposed landfill site be identified with a high degree of certainty. ... recommended that groundwater levels in the bores be logged in parallel with rainfall over a sufficiently long period to assess temporal variations in the groundwater regime.*

all of which appears to indicate that long-term data gathering and analysis of the site's aquifer should be undertaken BEFORE the requirements of Ref [7] can be assured. We infer that failure to do so runs the risk of there being unsuitable underground conditions upon which to build a landfill.

In summary, GVEPA argues that water quality in the World Heritage Oxley Wild Rivers National Park inevitably will be threatened by this new landfill because

- **international evidence indicates that no landfill can be assumed not to leak sometime within its lifespan – leachate will enter the World Heritage Property;**
- **there is insufficient data available about both the flood threat and especially about the nature and extent of the aquifer at the site for a landfill to be built with surety that neither of these factors could jeopardize its integrity.**

1.3 Problems with the Geology

Uncertainty about the suitability of the hydro-geotechnical environment of the site appears also to underpin EA Systems advice to Maunsell. Its report concludes (DEWR Referral, Appendix C, p. 15) that:

> *... the outcome of the **limited*** (our emphasis) *geo-technical assessment undertaken of the proposed site **does not preclude** (our emphasis) the construction of a landfill facility. The site should be suitable if suitable construction specifications are adhered to. The soil properties of the underlying decomposed sandstone material should provide a suitable in-situ lining material provided it is ripped and wetted to provide adequate compaction. The orange clay material found across the site ... should provide a material suitable for capping purposes.*

[3] A productive DIPNR registered bore is located approximately 50 metres west of the landfill site boundary

The recurrence of the word 'should', rather than 'does', is hardly a fulsome endorsement of the suitability of the materials available on site from which to construct the landfill, while the observation that the site is 'not precluded' by the evidence again conveys are very clear message of caution. To GVEPA. **This equivocation sets off alarm bells: what is at stake here is the well-being of a World Heritage National Park system and we believe that it is Australia's obligation NOT to take action that might further jeopardize its integrity.**

Uncertainty about the suitability of the soils available on the site is also implicit in RCA Australia's report (DEWR Referral, Appendix D, p.17):

> *Potential geotechnical constraints to the proposed works that are identified include:*
> ** Potential dispersive soil and high erosion hazard. This has implications for compacted clay capping and liner as well as for water storage embankments.*

Taken together, the EA Systems and RCA Australia analyses and conclusions appear to reinforce the judgements of a NSW Dept of Public Works Peer Review report in 2001. There it was reported that the ***likelihood*** **was HIGH** that leakage of leachate into the groundwater/river system would occur (Criterion 15). As would be expected, it rated this as having a **CRITICAL impact upon the environment**. It further recommended that a 'sound assessment' of local and regional geology be undertaken and warned that the consequences of a failed barrier system would have a CRITICAL impact and would result in EXPENSIVE remediation procedures. ***In GVEPA's view, this DPW analysis is remarkably consistent with the conclusions of landfill specialists such as Lee and Associates, whose work was cited above.***

We stress again, that the kind of liner being proposed in the DEWR Referral is not a plastic-clay composite liner, rather it is a basic clay-only liner that even with the best of materials can be expected to deteriorate and release leachate 'sooner, rather than later'. It appears that the quality of clays available on the proposed site is NOT 'the best'! Furthermore, there is no attempt at quantification of the supply of clay soils on the site: is there enough to build the landfill properly and manage it over the next 50 years? If quantities on-site are insufficient, where will appropriate additional clay soil come from and might the integrity of landfill be prejudiced by recourse to inferior clay soil?

Throughout the above mentioned Peer review report, frequent reference was made to the importance of 'monitoring and management' by the operating authority. We have already drawn attention to the inadequacy of the DEWR Referral in this regard (see above, p. 5), and here reflect upon the recent management practices of the Armidale Dumaresq Council in relation to its current facility.

1.4 Poor ADC Management & Monitoring Record

We note that the DEWR Referral (p.54) accords the ADC

a satisfactory record of responsible environmental management

the only data being provided (as opposed to general assertions and appeals to policies as opposed to practices) being the award of the Telstra Land Care Award for Local Government in 2000. However, at about the same time, the EPA's Compliance Audit Report was revealing many faults in the management and monitoring of the existing landfill on Long Swamp Road (NSW EPA, 2000, Executive Summary). It states:

> *The findings of the audit indicate that the enterprise was not complying with a number of conditions attached to ... the Environment Operations Act.*
>
> ...
>
> *Issues of concern identified through further observations include:*
>
> *- The collection of uncontaminated surface water in the leachate collection system, increasing the quantity of leachate contaminated water that requires disposal*
>
> *- Scouring of the landfill batter ... allowing infiltration of surface water into the landfill*
>
> *- The inadequate collection of surface water, contaminated by landfilling activities, likely to cause pollution of groundwaters*
>
> *- The degradation of local amenity through inadequate litter controls and inadequate covering of waste.*

More specifically with respect to groundwater contamination, the report declares (NSW EPA, 2000, p.5):

> *The licensee has implemented a comprehensive water monitoring program involving quarterly sampling of surface and ground waters for a range of parameters. The first round of sampling in February 2000 indicated that high levels of contaminants were present in the groundwater in the well located adjacent to the northern boundary. It was reported that the high levels may have been caused by leachate contamination.*

GVEPA does not share Maunsell's assertion that the ADC has a 'satisfactory record' regarding the management of its current facility. At best, we can assume that every effort would be made to minimize the loss of leachate. The question is, is that good enough when the future health and integrity of a World Heritage National Park system is at stake? GVEPA says NO!

2. Threat to Flora and Fauna

Before addressing the anticipated impact of the proposal on flora and fauna, we first draw attention to perceived serious inadequacies in the survey data base upon which conclusions are drawn about the likely consequences of the proposal in practice.

2.1 Inadequacies in the Survey Data

There are two worrying aspects of the survey work undertaken for this environmental assessment: its astonishingly brief period of field work and its limited focus. GVEPA does not regard this as a reflection upon the diligence of the consultants, rather, we presume, of the assumptions underpinning the development of the Terms of Reference developed by Maunsell for its consultants.

The EA Systems report acknowledges the limitations of the fauna survey data gathered for this assessment (DEWR Referral, Appendix B, p.23):

> *The main limitation of the survey is the 'snapshot' nature of the survey during which only a proportion of the full species diversity is likely to be detected.*

The data were collected on just 4 days in 2005 (2 in March and 2 in October) on the landfill site and 1 day on the TSR at the access road, or something less that 1% of the available time. The nocturnal survey was carried out over a period of just 11 hours.

Exacerbating this deficiency is the chosen times at which the observations were made. March and October lie at either end of the peak period for observations, the consequence being that fewer species would be expected than if observations were made during the peak period.

GVEPA readily accepts the Consultant's caveat here and notes that the tabulated data that are presented bear many entries such as 'not recorded'. How many more species, and in particular, migratory, vulnerable or endangered species, would be recorded if the full diversity was known? On the basis of this sample, is it possible to confidently conclude that no community of a particular bird species exists on the site? For example, is the following claim defensible (DEWR Referral, Appendix B, p.115)?

> *No bird species on site listed as migratory or listed marine species under the EPBC Act were recorded on the study area. The proposed development, therefore, is not likely to have a significant impact on the migratory or listed marine species detected on the study area.*

What does this minimalist sample mean, then, for the validity of subsequent conclusions about impacts upon the environment? How defensible are the conclusions drawn? If, for example, several more of the endangered/vulnerable species had been observed, or if larger numbers had been encountered, what differences might that have made to the conclusions drawn?

Apart from the limited nature of the observations made, our confidence in the reporting of available pre-existing data has been lessened by the consultant's failure to identify a fully documented report of a **sighting of the endangered Regent Honeyeater in 2000** in the Travelling Stock Reserve just across the Waterfall Way and quite near to the proposed landfill site (Appendix B, p. 2).

Similarly, the **endangered Spotted Tailed Quoll has been recorded** in very close proximity to the proposed site[4] which includes extensive areas of suitable habitat fro this species (Appendix B, p.1).

It is difficult not to conclude that minimizing the opportunities for consultants to gather data equates to minimising the chances that significant data will be unearthed, thereby maximizing the chances of approving authorities endorsing a proposal. Information is power: withholding or suppressing it is a powerful means of influencing a decision!

Beyond the limited survey data that were gathered, and the question marks that hang over it, **it is not clear to GVEPA why the Gara River environment itself was not also studied.** We presume that this reflects Maunsell's assumption that no leachate will ever be lost from the site, but as we have argued above, GVEPA's conviction is that leachate will enter the groundwater system sooner or later, and will go on doing so well into the future. Both of GVEPA's consultants have alluded to the need for further research into the likely ecological consequences of leachate pollution[5] of the Gara River (Appendix A, p.3 & Appendix B, p.2)

GVEPA argues that the full, long-term consequences of this landfill being built cannot be anticipated while ever the FULL range of endangered/vulnerable species present in and supported by the Gara River, thence Oxley Wild Rivers National Park, is not identified. Consequently it is not possible to assert with confidence that no significant impacts upon threatened species of endangered ecological communities are likely.

2.2 Impact on Flora & Fauna

GVEPA's belief is that matters of national ecological significance are clearly threatened by the proposed landfill development. Whilst the DEWR Referral asserts that 'no significant impacts on threatened species or endangered ecological communities are considered likely, GVEPA argues that:

- Maunsell's own consultant appears to report a contrary opinion

[4] Local acquaintances living on the adjacent Commissioners Waters creek report increasing losses of poultry to Quoll in recent years.

[5] GVEPA's consultant advises that if leachate escapes into the river system then heavy metals are most likely to be among the toxins released. These 'can cause fish kills as well as impacts on other biota, and a buildup of organic material. Although additional organic material in the system will not cause fish kills, it will alter the ecosystem, making it more suitable for exotic species, and changing species compositions.

- the critically endangered Box-Gum Woodland is among the finest remaining remnants on the New England Tablelands and is a site of high national conservation value;
- wildlife corridor fragmentation, already at critical levels in this locality, will be exacerbated
- significant impacts can be expected on several vulnerable or endangered species.

2.2.1 Maunsell's Claims

In assessing the 'Likely impacts on matters of national environmental significance' the claim is made that (DEWR Referral, p.34):

> *No significant impacts on threatened species or endangered ecological communities are considered likely ...*
>
> *The landfill facility will be constructed and operated in a manner that avoids significant off-site impacts from ground and surface water contamination or spread of weeds and pests on the Oxley Wild Rivers National Park, World Heritage Area.*

The language here is important to analyse. This statement doesn't claim that leachate will not leak from the site, but it does imply that such an outcome can be managed so that the pollution caused will not be 'significant off-site'. **This begs the question of what constitutes a 'significant' impact – how is that defined, how is it measured and against what yardstick?** Put alternatively, how much poison is too much in an ecological community? And in whose opinion is that the case?

As noted already, GVEPA's consultant has questioned the lack of research and analysis in relation to the nature of the leachates that might be formed and, in particular, their likely impacts upon the Gara River ecology (see above, p. 5). Another of GVEPA's consultants reinforced that criticism) Appendix B, p.2):

> *The project documentation has failed to mention the considerable risk to riparian and aquatic communities within the Oxley Wild Rivers National Park from the generation of sediment, hydrocarbon, pesticide, nutrient and gross pollutant contamination at the site. Oxley Wild Rivers National Park contains a host of riparian and aquatic species highly dependent upon the maintenance of existing water quality; the proposed landfill will impact adversely upon many of these core natural values of the World Heritage property.*

Also implicit in the Referral's assertion is that there will be no significant threats posed by the inevitable land clearing required to build both the access road and the landfill itself. **GVEPA believes that Maunsell's own consultant has reported differently.**

2.2.2 Consultant's Cautions

GVEPA notes the consultant's observation on this issue (DEWR Referral, Appendix B, p.32):

> *Impacts to biodiversity resulting from the landfill development will span time scales that are at least inter-generational, if not permanent. The losses that will occur at the landfill site also contribute to the already significant level of cumulative loss that has occurred at a regional scale on the New England Tablelands (DEC 2006).*

So, just as the river system is already under great stress from human intervention, so too are the vegetation communities of the New England. And as the consultant goes on to report, this landfill proposal will add further and possibly irrevocably, to that degradation.

> *The proposed action will involve clearing which will result in a reduction in the area of woodland and grassland habitat that supports native flora and fauna, including five threatened species, one ROTAP species and one endangered ecological community.*

Even with the limited survey data to hand, the projected land clearing of the landfill site and its access road will adversely affect nationally significant species and vegetation.

2.2.3 The Box-Gum Critically Endangered Ecological Community (CEEC)

GVEPA understands that the Box-Gum CEEC in and bordering the landfill site is **one of just a few** such communities remaining in NSW. As the DEWR Referral notes (Appendix B, pp.26):

> *Between 60 and 90% of grassy woodlands on the Northern Tablelands have been cleared since European settlement (Keith, 2004). The overall habitat value of the box-gum woodland community of the study area is considered to be high.*

GVEPA's own consultant has cited a more recent assessment provided in 2006 to the Minister, DEH, that indicates a 'decline of 95% or more of its original extent' (Appendix tda, p.2) and recognizes this woodland as being more than 'endangered', it is **critically** endangered.

The DEWR Referral (Appendix B, p. 38) notes that

> *The diversity of habitats on and around the study area is relatively high due to the presence of a mosaic of woodlands, grasslands, sedgelands, farm dams and the Gara River. The box-gum woodland beside Waterfall*

> *Way has high habitat value with high biodiversity, many mature trees, and low numbers of exotic flora and fauna.*

Despite being a critically endangered ecological community, it is intended to build an access route through 200m of this woodland which will require partial clearing. Given the extent of clearing of native vegetation from the New England since European settlement, surely the time has come to call a halt, while some vestiges of former habitats remain! This is especially arguable given the CEEC status of this woodland. On this issue, GVEPA's consultant states (Appendix A, p.2):

> *Whilst it is acknowledged that the proposal has attempted to minimize impacts on identified Box gum woodland community by locating the access track in an apparently degraded remnant it should be noted that given the limited range and distribution of this community, under the EPBC Act, Policy statement 1.1 (Significant Impact Guidelines, May 2006)* ***any impact is likely to be significant*** *(GVEPA's emphasis).*

GVEPA notes that a lot of space in the Referral is devoted to justifying the loss of invaluable natural environment by notions of 'Compensatory Habitat Offsets' (Maunsell, Appendix B, p.75) and various rehabilitation strategies. We are persuaded by the DEC (2006) statement above, that such measures are NOT an acceptable substitute for further loss of vegetation on the New England, especially where known vulnerable and endangered species and communities are concerned. As the DEC (2006) argument implies, habitat offsets will need many years to acquire the comparable degree of maturity necessary to develop the equivalent ecological biodiversity of the cleared vegetation. *In the meantime, threatened and endangered fauna suffer further reduction of habitat that can only increase their vulnerability.*

But the most powerful refutation of this Compensatory Habitat Offset strategy lies in the fact that it is not applicable to *critically* endangered ecological communities (Appendix A, p.2):

> *For critically endangered ecological communities, the use of a biodiversity offset strategy is not recognized by the Department of the Environment and Water Resources as a mitigatory measure.*

GVEPA concludes that

- **clearing any part of the Box-Gum CEEC must be understood to represent a significant impact upon that ecological community, as well as the fauna it supports and has the potential to support;**
- **the proposed Compensatory Habitat Offset is both inapplicable and unacceptable**

which clearly implies that this site must not be developed as a landfill.

2.2.4 Extent of the Box-Gum Woodland questioned

We note too that the Referral seeks to define the Box-Gum Woodland as being restricted to that relatively healthy component on the adjacent TSR, preferring to describe the landfill site as a Stringybark Woodland. While this would be convenient to the proponents of the landfill proposal, GVEPA is not convinced about that distinction, deferring instead to the NSW NPWS definition of a Box-Gum Woodland that is more encompassing (NPWS, nd, pp4,5).

> *Remnant Box-Gum Woodland can occur in a range of conditions, from almost pristine to highly modified. The importance of a particular Box-Gum Woodland remnant to the maintenance and recovery of this EEC in a local region needs to be considered in the context of the extent and condition of Box-Gum Woodland in the local region.*
>
> *Intact Box-Gum Woodland remnants in which native greases and wild flowers characterise the ground layer are extremely rare and highly significant in all regions. Remnants of this quality should be managed appropriately to ensure they remain in such good condition.*
>
> *Where the Box-Gum Woodland remnant is in less than pristine condition it is still considered part of the EEC as long as the site has at least part of its natural soil and seedbank intact, so that under appropriate management it would respond to assisted natural regeneration. Therefore the Box-Gum Woodland EEC can include the following conditions,*
> *• Trees present as a canopy with a non-native ground-layer,*
> *• Characteristic tree species absent as a result of past clearing or thinning and only other tree species and groundlayer present and*
> *• Overstorey absent as a result of past clearing or thinning and only a ground-layer present.*
>
> *Depending on the local extent and condition of Box-Gum Woodland, isolated box or gum trees scattered across a paddock may also form part of the EEC.*

GVEPA argues that by this definition of a Box-Gum Woodland, the proposed landfill site, as well as the TSR community could easily both be so classified.

2.2.5 Fragmentation

The proposal acknowledges that it will exacerbate the fragmentation that the existing woodlands exhibit (DEWR Referral, Appendix B, p.34):

> *Clearing of parts of the box-gum woodlands in the TSR and parts of the stringbark woodland will contribute to fragmentation of woodland habitat with associated edge effects and reduced connectivity.*

Elsewhere the significance of such connectivity is noted (DEWR Referral, Appendix B, pp. 11,12):

> *These isolated remnants of woodland provide potential habitat to enhance connectivity of wildlife populations and help some species to overcome the consequences of habitat fragmentation (Wilson & Lindenmeyer 1995). Species that require continuous forested areas are likely to disappear from areas that are severely fragmented. Thus every patch of woodland in this area potentially plays and important role in facilitating dissemination of propagules and genetic material of native fauna and flora that helps to maintain viable populations within the local area.*

The proposed landfill site is part of an established Citizens Wildlife Corridor, a community-based initiative to restore native vegetation in strategically located corridors so that native fauna, especially birds, have continuous food and shelter to facilitate their natural movements back and forth across the landscape. It forms a vital link between the Oxley Wild Rivers National Park and the smaller outliers such as the Yina and Imbota Nature Reserves.

GVEPA's perspective is that this Box-Gum CEEC Woodland, including the Stringybark Woodland, is so important as part of the wildlife corridor within this local region, that it should not be interfered with, and certainly not diminished by clearing.

2.2.6 Other Threatened Species

GVEPA acknowledges the detailed collation and analysis of data provided by the EA Systems (DEWR Referral, Appendix B)[6] and draws attention to the following conclusions from that analysis.

> *Five listed threatened species were observed on the study area:* Narrow-leaved black peppermint ..., Speckled Warbler ..., Diamond Firetail ..., Eastern bent-wing bat ..., and Koala ... . *One threatened species,* Hooded robin ... *has previously been recorded adjacent to the site and any extant or new populations of this species would be likely to utilize the woodland habitats on the study area.*
>
> *(DEWR Referral, Appendix B, p.77).*

It was then observed that both the landfill operational site and the access road through the TSR did not constitute 'core koala habitat' (DEWR Referral, Appendix B, p.63), GVEPA would argue that the TSR most certainly qualifies as 'potential koala habitat' because it is

[6] But note our concerns about the adequacy of the field study's observation sample (see above, p. 10)

part of the same Box-Gum CEEC remnant in which the koala was observed (the observation was a few hundred metres east of the proposed road access).

The EA Systems consultant further concludes that:

> *... the loss of habitat due to the proposed development will have a significant impact on local populations of two threatened woodland birds (Diamond firetail finch and Speckled warbler) which are known to occur on the site, and other potentially occurring threatened species including Hooded robin, Barking Owl, Black-chinned honeyeater and Squirrel glider.*
>
> *(DEWR Referral, Appendix B, p.77)*

In addition, GVEPA draws attention to the following vulnerable or endangered species known within the locality of the proposed landfill. A synopsis of the threat posed by the development to each of these species is provided in Appendix C. Theses species are:

1. ***Regent honeyeater*** – endangered – key threats include loss and further fragmentation of habitat, and reduction in large flowering eucalypts:

2. ***Swift parrot*** – endangered – similar to those documented for the Regent Honeyeater with the additional 'major' threat posed by the proposal to erect a 2m high chainlink fence around the perimeter of the operational landfill site. This bird is a known low-flying species vulnerable to such obstacles in its 'flyways';

3. ***Spotted Tailed Quoll*** – endangered – it is anticipated that the clearing of a substantial area of native vegetation on the site will result in the removal of tree hollows and fallen timber, both being recognized key habitat features for this species. A considerable impact on this species is anticipated.

4. ***Narrow Leaved Black Peppermint*** – vulnerable – most occurrences of this species are small populations on private land and are therefore highly susceptible to loss through clearing by landholders. 'Development of land adjacent to the existing individuals of this species in the vicinity of the proposed landfill has the potential to adversely impact upon the viability of the species by limiting opportunities for recruitment and enhancement of critically low population numbers'

5. ***Three species frogs*** – the *Yellow spotted tree frog (endangered), Peppered frog (vulnerable) and Booroolong frog (vulnerable)* have been documented historically in the Gara & Commissioners Waters Rivers, though are now thought to be extinct in those environments. However, should any of these species still occur in the locality, then the mobilization of sediments, coupled with declines in water quality as a result of the

construction and operation of the proposed landfill would have a major impact on their chances of regeneration.

All these data lead GVEPA to the inevitable conclusion that the construction and commissioning of the proposed landfill has the potential to impact substantially on the World Heritage values of the Oxley Wild Rivers National Park.

A Different Site is Needed

We have noted above our assumption that the existing ADC landfill almost certainly already impacts upon the Oxley Wild Rivers National Park through leachate loss from the existing landfill (see above, p.8). We must assume that this effect will be on-going for several decades to come. Just as leaked leachate will inevitably threaten its World Heritage values, clearing of vegetation for the new landfill will also violate core environmental values and guidelines, affecting as it does listed vulnerable and endangered species, and critically endangered ecological communities of national significance.

Drawing on 1998 data, the Referral acknowledges that the Gara River system has been gravely stressed for many years, most obviously because of low flow rates (DEWR Referral, p24). More recent data reinforces that this is an on-going condition (see Table 1 below) whilst also pointing to what is at stake: threatened frog species, a high ecological diversity and its importance to the Oxley Wild Rivers National Park system. **Instead of perpetuating this insidious contamination, this 'once in a lifetime' opportunity to reduce stress upon the Gara River system must be taken by refusing approval for the proposed landfill to be constructed any where in the catchment area.**

Water Source Attributes	Rating	Justification
Relative Instream Value (within Catchment)	Medium	* 3 threatened frog species
		* high diversity
		* significant area of National Park
Hydrologic Stress	High	* within water = high
		* cumulative stress = high - peak extraction demand exceeds available flows in November

Source: Macleay River Catchment Area - Unregulated Water Sources (MARCH 2006)

GVEPA is aware that the ADC argues that it has no more time to find a better site. By the time Maunsell Australia was engaged to finalise the site selection process, the range of sites had been determined by the ADC and all were within its existing Council boundaries. GVEPA argues that the time pressure under which the ADC now finds itself is a consequence of its own procrastination over the preceding decade or two. **It is unacceptable to GVEPA for ADC/Maunsell to argue that because the ADC has mismanaged its planning process, it should be permitted to built a landfill on a site that clearly violates Nationally Significant Environmental values.** If a new landfill must be built, then what is needed is a site that does not risk pollution of the World Heritage Gondwana Rainforests of Australia.

GVEPA's view is that since the proposed landfill is to be a regional facility, then the search for a suitable site should reasonably be extended to all Councils that are expected be users of the facility. GVEPA understands that several years ago the Tamworth Council made an overture to Armidale Council inquiring about its interest in working cooperatively on a regional landfill facility. That kind of regional-level thinking is sorely needed because in our view, rubbish is as big a national issue as is water, and it should be dealt with on a regional basis, at the least, if not State – too important to be left to local government Councils, whose vision of priorities is likely to be narrow, and concern for consequences equally self-interested.

The ADC's vision is narrow and economically driven – it appears to want a 'business venture' in waste management, and its values are such that the environment is very much a second-rate concern. This is demonstrated quite clearly in the DEWR Referral (p.7) where arguments for proceeding with the chosen site are listed immediately beneath a Table that reveals the priorities of the various factors taken into account when site selection was finalised. The 'environment' received almost half the weighting of 'level of service' and the 'opportunity' to secure a regional facility that provides employment

Conclusion

The bottom line in GVEPA's opposition to the proposed landfill development on this site is that 'matters of national environmental significance' are threatened by it. The adverse effects of its construction and commissioning will be on-going, conservatively for decades to come, because it is well known that all landfills will, sooner or later, leak leachate into the adjacent groundwater. It is a major deficiency of the proposal that it fails totally to make any assessment of both the nature of the leachates that will be generated and their likely impact upon riparian and aquatic ecologies of the Gara River system. In turn, this implies that the effects of the development upon the greater World Heritage Gondwana Rainforests of Australia remain largely unstated.

Beyond the threat of pollution to the waterways that are fed by the Gara River, GVEPA believes that the proposal fails to acknowledge the extremely high national conservation value of the remnant Box-Gum Woodland that will be partially cleared for an access road, despite it being part of the estimated remaining 5% of this kind of **critically endangered ecological community**. Such clearing, when coupled with the clearing of the stringybark woodland of the landfill site proper, together conspire to significantly threaten the habitats of several species of listed *threatened, vulnerable or endangered* species.

GVEPA believes that the evidence overwhelmingly supports its assertion that 'matters of national environmental significance' will be adversely affected if this development ever proceeds. Accordingly, GVEPA appeals to the Australian Government to rule out the development because it does pose a significant risk to the Oxley Wild Rivers National Park system, thereby placing the government in breach of its international duty of trust to ensure that its World Heritage property is protected. As the Assistant Minister, DEWR said, when announcing the renaming of the CERRA property the Gondwana Rainforests of Australia:

> *Few places on earth contain so many plants and animals whose ancestors can be traced through the fossil record and today remain relatively unchanged.*

GVEPA is convinced that this very special, internationally recognized environment must not be prejudiced by the commissioning of a landfill anywhere in its catchment: to do so will be a willful act causing inevitable and long-term pollution, the impact of which is unknown (and no attempt has been made to identify it), except that it will be adverse. ***To even contemplate risking the World Heritage values inherent in the Gondwana Rainforests of Australia by permitting a development that is so mundane as a putrescible waste facility, is unconscionable.***

Appendices and Attachments

Appendix A

tda Environmental Consulting, *Advice to GVEPA*

White Box – Yellow Box – Blakey ' s Red Gum grassy woodlands and derived native grass lands (Box gum woodland)

This community is listed as a critically endangered ecological community, having undergone a decline of 95% or more of its original extent[1]. Whilst it is acknowledged that the proposal has attempted to minimise impacts on identified Box gum woodland community by locating the access track in an apparently degraded remnant it should be noted that given the limited range and distribution of this community, under the EPBC Act Policy Statement 1.1 (Significant Impact Guidelines, May 2006) any impact is likely to be significant.

Further the proposed mitigation measures do not seem to acknowledge the impacts on this specific community. The proponent has attempted to offset the impacts through a biodiversity offset strategy, which does not include any measures to manage the Box gum woodland. The proposed offset pertains to a vegetation community that is not classed as Box gum woodland. For critically endangered ecologically communities, the use of a biodiversity offset strategy is not recognised by the Department of the Environment and Water Resources as a mitigation measure.

The nature of the development also precludes any long-term regeneration of the Box gum woodland community given the revegetation constraint proposed by the landfill capping. It would be considered appropriate for the proponent to more specifically consider the impacts on the Box gum woodland and propose management measures, which directly respond to the predicted impacts on this community, including measures outlined in the relevant EPBC Act Policy Statements.

Impacts on Gara River & nearby Oxley Wild Rivers World Heritage National Park

The proposal in its current form proposes a containment and management strategy, which aims to reduce the likelihood of offsite contamination from the operation of the landfill. However, there is no mechanism put forward to deal with any inadequacies with the containment strategy (during the operation of the proposal) and the likely impact that any inadequacies would have on the water quality of the Gara River and therefore broader impacts on the World Heritage National Park nearby.

[1] Commonwealth Department of Environment and Heritage (2006) Advice to the Minister for the Environment and Heritage from the Threatened Species Scientific Committee on Amendments to the List of Ecological Communities under the *Environment Protection and Biodiversity Conservation Act 1999*.
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It is suggested that a more thorough assessment would detail:
- The reliability of the containment system with respect to similar landfills;

- The proposed monitoring of the efficacy of this containment system;
- The potential impacts should the containment system fail (types of pollutants, quantities and ecological implications); &
- The management approach that would be applied should it be determined that the containment system is inadequate.

Without such information it is difficult to confidently conclude that the proposal will not have any significant impact on the values of adjoining World Heritage Areas, either directly or indirectly. This is particular relevant in light of the already degraded nature of the Gara River as a receiving water of the proposal, and a tributary of the greater Oxley Wild Rivers drainage system.

Landfill & Greenhouse

The National Landfill Division of the Waste Management Association of Australia notes in a recent submission to the Productivity Commission's Waste and Resource Efficiency Enquiry that "Best practice in Australia is becoming widely accepted as including... cell capping with clay, geomembrane, revegetation and gas collection and energy recovery...". The proposal acknowledges the likely generation of methane but not to a level that requires flaring. In the context of climate change, and the likely implications it poses for Matters of National Environmental Significance generally, prior to considering a need for flaring the proposal should consider the containment and appropriate use of methane gas as an energy source and as a greenhouse gas mitigation measure.

Revising the capping strategy, and the associated potential to use the stored methane gas as an energy source, may have implications for the revegetation potential of the site during decommissioning, in addition to removing the need to emit powerful greenhouse gases. These aspects should be investigated in more detail, and if proven unfeasible, discounted prior to assessing the proposal in its current form.

We understand that this information will be used as part of the Gara Valley Environment Preservation Associations submission to Department of the Environment and Water Resources. In general, we feel there is a lack of cognisance of the significance of the environmental issues associated with this proposal, both in terms of direct impacts on Matters of National Environmental Significance, and downstream impacts on the values which serve to characterize

tda_07416_Advice_EDO_ Armidale Dumaresq Landfill 4

adjacent Matters of National Environmental Significance. We are confident that this information will assist the client to better understand the key issues and wish to identify ourselves as providing the advice.

Please do not hesitate to contact me should you require any further information.

Yours faithfully,
Guy Williams
Director

tda Envi ronmental Consulting

Appendix B

A REVIEW OF EPBC MATTERS RELEVANT TO THE SITE OF THE PROPOSED REGIONAL LANDFILL – GARA RIVER

Prepared by M. S. Graham

Buckombil Conservation Services

on behalf of Gara Valley Environmental Protection Association

12 September 2007

INTRODUCTION

A proposal for a Regional Landfill has been submitted on behalf of Armidale-Dumaresq Council to the Commonwealth and State Governments. This document provides an overview of Matters of National Environmental Significance as they apply to the site and reviews documentation relating to flora, fauna and biodiversity values of the site contained within documents submitted to the Commonwealth Government. A previous report (January 2007) detailing the ecological significance of the site is appended.

EPBC MATTERS

LISTED SPECIES

Two listed fauna species, Spotted Tailed Quoll and Regent Honeyeater, have been recorded in very close proximity to the subject property, and the property contains extensive areas of habitat suitable for both species. Furthermore, one listed flora species (the Narrow Leaved Black Peppermint) has been recorded on the subject land.

LISTED COMMUNITIES

The site contains an extensive area of good site condition White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland, a community listed as Critically Endangered under the EPBC Act. Very few areas of good site conditions\ Grassy Box woodland remain, this site is amongst the finest on the New England Tablelands, representing a site of national conservation value.

WORLD HERITAGE VALUES

The site of the proposed landfill is within very close proximity to the World Heritage listed Oxley Wild Rivers National Park (part of the Central Eastern Rainforest Reserves of Australia World Heritage property). Despite repeated mention within project documentation that the site will not have any undue adverse impacts upon the World Heritage property, it is apparent that considerable potential exists for major deleterious downstream impacts upon World Heritage values within Oxley Wild River National Park. Recent experiences on the Timbarra Plateau (1999-2001), a site of very similar climatic and landscape context to the proposed landfill site, have shown that it is impossible to engineer a facility adequate to withhold runoff from peak summer rainfall events. In the case of the Timbarra gold mine, this resulted in considerable downstream leachate and sediment contamination of the headwaters of the Clarence River.

The project documentation has failed to mention the considerable risk to riparian and aquatic communities within the Oxley Wild Rivers National Park from the generation of sediment, hydrocarbon, pesticide, nutrient and gross pollutant contamination at the site. Oxley Wild Rivers National Park contains a host of riparian and aquatic species highly dependent upon the maintenance of existing water quality; the proposed landfill will impact adversely upon many of these core natural values of the World Heritage property.

FAILURE TO REPORT REGENT HONEYEATER RECORD AT THE SITE

The reports prepared on behalf of Armidale-Dumaresq Council have failed to report the existence of a record of the Regent Honeyeater made in October 2000 within approximately 1km (*Figures 1 and 2*) of the proposed landfill, this is despite the record being contained within the NSW Wildlife Atlas, a readily available data source. This record is of immense significance given the ongoing decline of this species and the paucity of records in the northeastern parts of its range. The site of the proposed landfill contains extensive areas of habitat suitable for the foraging needs of this nationally endangered species, notably woodlands supporting Yellow Box (a favoured nectar bearing feed specie) and a suite of other woodland species providing other foraging resources including manna, lerp and insects.

Shape	Point
Slicencena	Default Incidental Sightings
Sclassname	Aves
Ssightingk	SPMC00111300
Sspeciesco	0603
Sfamilynam	Meliphagidae
Isortorder	87
Sscientifi	Xanthomyza phrygia
Scommonnam	Regent Honeyeater
Slegalstat	E1
Sendangere	
Dtfirstdat	27/10/2000 00:00:00
Dtlastdate	27/10/2000 00:00:00
Ssurname	R Shepherd
Sobservati	0
Inumber	1X
Sreliabili	4
Slocationk	LPMC00111300
Sdescripti	Gara River Travelling Stock and Camping Reserve, 15km E of Armidale on Grafton Rd
Flatitude	-30.541319816462920
Flongitude	151.79487596060446
Izone	56
Ieasting	384400
Inorthing	6620600
Iaccuracyi	100.0
X_coord	384400.00
Y_coord	6620600.00

Figure 1: Database record of Regent Honeyeater – Gara River (Source: NSW Wildlife Atlas)

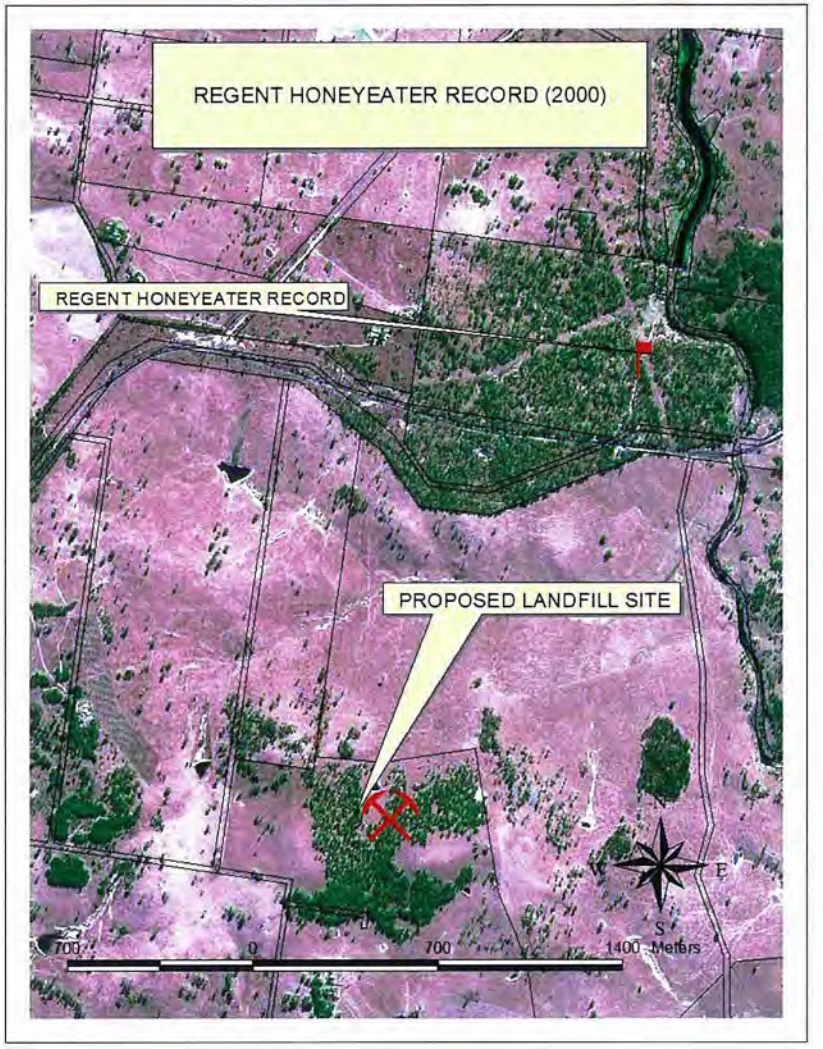

Figure 2: Location of Regent Honeyeater record in relation to proposed landfill site.

Appendix C

buckombil conservation services

ECOLOGICAL SIGNIFICANCE OF THE SITE OF THE PROPOSED ARMIDALE REGIONAL PUTRESCIBLE WASTE FACILITY

A review of Matters of National Environmental Significance of the Site - January 2007.

INTRODUCTION

This report has been prepared at the request of the Gara Valley Environment Preservation Association Inc (GVEPA). The aim is to review the ecological significance of the locality of the proposed landfill site and report upon matters of National Environmental Significance that apply to the site.

LANDSCAPE CONTEXT

The site of the proposed landfill is located approximately 12km east of Armidale near the eastern edge of the New England Tablelands immediately to the north of the Macleay River Gorges. The Macleay Gorges are reserved within the Oxley Wild Rivers National Park section of the Central Eastern Rainforests Reserves of Australia (CERRA) World Heritage Property.

The site of the proposed landfill forms part of a fragmented corridor of native vegetation along the Gara River and Commissioners Waters valleys linking the large areas of native vegetation contained within the Oxley Wild Rivers National Park to smaller outliers of native vegetation within both Yina and Imbota Nature Reserves. To the west of this corridor there is a large expanse of land in the vicinity of Armidale with little or no remnant vegetation.

SPECIES LISTED ON THE ENVIRONMENTAL PROTECTION AND BIODIVERSITY CONSERVATION ACT (1999)

Regent Honeyeater (*Xanthomyza phrygia*) – ENDANGERED

The Regent Honeyeater has been documented both east and west of the site of the proposed landfill, to the west at Imbota Nature Reserve (formerly Eastwood State Forest) and to the east in 2000 at the Gara River Travelling Stock Reserve. The proposed landfill site is located immediately between these two recorded localities for this species.

The Regent Honeyeater primarily forages upon nectar from a limited number of Eucalypts (NPWS, 1999) including the Yellow Box (*Eucalyptus melliodora*) and Mugga Ironbark (*E. sideroxylon*) on the Northern Tablelands of NSW. The Regent Honeyeater is also known to forage upon lerp, manna and other high carbohydrate content exudates from Eucalypts and wattles. The occurrence of a considerable number of mature Yellow Box at the proposed landfill site indicates the high habitat quality for the Regent Honeyeater of the site; whilst the location of the site between two sites of known occurrence of the species further highlights the value of the vegetation on the site of the proposed landfill to the Regent Honeyeater.

IMPACTS

Key threats to the Regent Honeyeater identified by the NSW National Parks and Wildlife Service (1999) include:

- loss and fragmentation of habitat, and
- reduction in large flowering eucalypts.

The clearance of a substantial area of Eucalypt forest and woodland to construct the proposed landfill, including the removal of tree species known to be of high value to the Regent Honeyeater (eg. Yellow Box) would create a major impact upon the species at this locality.

The removal of high quality habitat for the Regent Honeyeater in an area known to support the species has high potential to cause local extinction of a species that is already in substantial decline. Furthermore the loss of landscape connectivity and increased fragmentation of high quality habitat for the species is likely to adversely impact upon its ecological function and viability.

Swift Parrot (*Lathamus discolor*) – ENDANGERED

The Swift Parrot has been documented at Imbota Nature Reserve, approximately 3km to the west of the proposed landfill site.

The Swift Parrot breeds in Tasmania during the summer and migrates in a nomadic fashion from Tasmania to the mainland of Australia as far north as Brisbane during Autumn and Winter. The Swift Parrot forages upon a similar range of nectar bearing species as the Regent Honeyeater including Yellow Box. The species frequently forages upon lerp and other high carbohydrate content exudates.

IMPACTS

Key threats to the Swift Parrot are similar to those documented for the Regent Honeyeater above. However, a further threat of relevance to the locality of the proposed landfill is the threat of window and fence collision. Due to the rapid and often low flight of the Swift Parrot a considerable risk of window and fence strike risk exists. Given the proposal to construct wire chainlink fencing around the entire landfill facility it is considered that a major risk of strike by the Swift Parrot has been created. Of particular concern is the proposal to fence higher elevation sections of the site with fences of over 2m height as these areas are potential "flyways" for the Swift Parrot.

Spotted Tailed Quoll (*Dasyurus maculatus maculatus* Southeastern Mainland Population) - ENDANGERED

The northeast of NSW is known to support the largest remaining and nationally significant populations of the Spotted Tailed Quoll (DEH, undated) and the gorges of the Macleay River are known to be of major significance to the species (Dave Scotts *pers. comm.*). Several records of the Spotted Tailed Quoll have been made within the last five years in close proximity to the site of the proposed landfill, most associated with disturbance to domestic chicken coops.

The vegetation occurring upon the site for the proposed regional landfill contains a range of habitat features of significance to the Spotted Tailed Quoll including hollow bearing trees, fallen timber and the availability of prey species such as native birds and possums. Furthermore the native vegetation on the proposed landfill site is of value to the Spotted Tailed Quoll as a "stepping stone" of habitat between major populations in the Macleay Gorges and smaller populations to the north and east. The maintenance of habitat connectivity in this locality is essential for maintaining genetic flow between these populations.

IMPACTS

With the removal of a substantial area of native vegetation for the construction of the proposed landfill a considerable impact on the Spotted Tailed Quoll population in the locality is anticipated. Due to the lack of native vegetation in the locality and the documented occurrence of the Spotted Tailed Quoll within the landscape any further removal of vegetation is likely to heavily impact the species and has the potential to cause extinction on both the site of the proposed landfill as well as in the locality through the removal of high quality habitat features, essential dispersal corridors and habitat connectivity.

The clearance of native vegetation on the site of the proposed landfill will result in the removal of tree hollows and fallen timber, both recognised as key habitat features for the Spotted Tailed Quoll (NPWS,2001). These habitat features do not exist in land surrounding the proposed landfill site, due to extensive and ongoing clearance of native vegetation.

Narrow Leaved Black Peppermint (*Eucalyptus nicholli*) – VULNERABLE

The Narrow Leaved Black Peppermint occurs on undulating terrain dominated by woodland vegetation on the New England Tableland. This poorly conserved and nationally Vulnerable species has been documented on the site of the proposed landfill. Other populations are known to the immediate east and west of the proposed landfill facility.

IMPACTS

The primary threat to this species is the clearance and fragmentation of native vegetation (NPWS, 2001). The majority of occurrences of this species are small populations on private lands under a high degree of threat of clearance of native vegetation. Development of land adjacent to the existing individuals of this species in the vicinity of the proposed landfill has the potential to adversely impact upon the viability of the species by limiting opportunities for recruitment and enhancement of critically low population numbers.

OTHER SPECIES

Three species of frog listed on the EPBC Act have been documented historically in the locality of the proposed landfill. The Endangered Yellow Spotted Tree Frog (*Litoria castanea*) and the Vulnerable Peppered Frog (*L. piperata*) and Booroolong Frog (*L. booroolongensis*) have all been recorded in the catchment of the Gara River and Commissioners Waters. It is thought that each species is now extinct in the locality with the last record of each of these species made over 20 years ago. The Yellow Spotted Tree Frog is thought to be extinct across its entire range, the Peppered Frog is known to occur in limited areas to the east of Glen Innes and Tenterfield and the Booroolong Frog is thought extinct on the New England Tablelands.

Should any of these species still occur in the locality of the proposed landfill, major impacts resulting from the construction of the proposed landfill are anticipated. Specifically the mobilisation of sediments and declines in water quality as a result of construction and commissioning of the proposed landfill

WORLD HERITAGE PROPERTIES

The Oxley Wild Rivers section of the CERRA World Heritage property is located within three kilometres of the proposed landfill. Mobilisation of sediments, habitat clearance and fragmentation and declines in water quality as a result of construction and commissioning of the proposed landfill will all impact adversely upon the World Heritage values of this reserve.

CONCLUSION

The existence of known populations of Regent Honeyeater and Swift Parrot in the locality of the proposed landfill is of major significance. The proposal to remove a substantial area of high value habitat (mature nectar bearing trees such as Yellow Box) for these species to construct a landfill is of major concern and is likely to create a major impact upon these endangered and declining species.

The removal of high value habitat features for the Spotted Tailed Quoll such as hollows, fallen timber and habitat for prey species will heavily impact upon the viability in the locality and has high potential to cause local extinction. Removal of individuals of the Narrow Leaved Black Peppermint and development of land adjacent to individuals has the potential to severely impact upon this poorly conserved species.

Construction and commissioning of a landfill in the catchment of the Oxley Wild Rivers section of the CERRA World Heritage Property has the potential to substantially impact upon the world heritage values of this reserve.

REFERENCES

NSW NPWS. 1999. *Species Information Sheet – Regent Honeyeater.* NPWS, Hurstville

NSW NPWS, 2001. *Threatened Species of the New England Tablelands.* NPWS, Coffs Harbour.

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Buckombil Conservation Services, 2007, *A REVIEW OF EPBC MATTERS RELEVANT TO THE SITE OF THE PROPOSED REGIONAL LANDFILL – GARA RIVER*

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Maunsell Australia Pty Ltd, 2007, *Armidale Landfill DEWR Referral.*

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NSW Department of Public Works & Services, 2001, *Armidale Dumaresq Council Landfill Facility Peer Review*

NSW EPA, 2000, *Compliance Audit Report*

Submission S002a

Issue Number	Topic	Response
S002a_1	H1 W4	Community concerns have been noted regarding potential for pollution of the Gara River through leachate migration from the landfill and these issues are addressed in **Sections 8.3** and **8.4** of the EA. Potential impacts on the GRAWHA were assessed under the *EPBC Act 1999* and a referral lodged with DSEWPC (formerly DEWHA). DSEWPC determined that the proposal constitutes a controlled action under the EPBC Act. The nature of the assessment process under the EPBC Act is such that determinations are made without having regard to mitigation measures that would be implemented. However, the mitigation measures proposed in the EA will reduce the likelihood of significant impacts on the environment including the World Heritage Area. Stringent environmental controls to manage dirty stormwater runoff, provide leachate containment and emergency storage would be implemented and would reduce the likelihood of impacts to surface and groundwater. A Hydrogeological (Leachate) Assessment (**Appendix I** of the EA) assessed the potential risk of leachate infiltration through the landfill liner and subsequent worse case impacts if a leak were to occur. The assessment results indicated that it would take approximately 300 years for a leachate leak to reach the site boundary and approximately 700 to 800 years to reach the Gara River, by which time it would be diluted by groundwater and would not result in significant impacts on the Gara River, OWRNP or GRAWHA. Comprehensive management systems and strategies would be implemented to manage the rate and volume of leachate generated from the landfill mass, as well as the manner in which the leachate would be stored, treated and ultimately disposed. These management systems / strategies are described in the LEMP (**Appendix B** of the EA).
S002a_2	CU1	The proposal has considered the cumulative effects of elements of the proposal and with any future developments in the vicinity of the site. Should the landfill be approved, any future development in the area will be required to assess the cumulative effect of the proposed development with that of the proposed landfill on the receiving environment. There would be no discharge of contaminated water or leachate from the landfill to the downstream environment and therefore it is unlikely that the proposed landfill will have cumulative impacts on water quality of the Gara River. For the purposes of managing water during operation, surface water has been categorised as clean stormwater, dirty stormwater and leachate. "Clean" stormwater would be conveyed via the site's clean water diversion drains to the unnamed creek to the north of the Project Site. Clean stormwater would not be in contact with any areas where waste, organic material or compost has been handled or stored. Clean stormwater would not require treatment, however appropriate erosion controls would be provided along diversion routes and at the discharge (e.g. energy dissipator). "Dirty" stormwater is water which falls on any disturbed and operational areas of the landfill, but which has not come into contact with any waste materials. Dirty stormwater may contain suspended sediments and as such would be diverted to the proposed sedimentation basin to the north east of the landfill footprint, in which sediments would settle out. Appropriately treated, clarified surface water from the sedimentation basin is intended to be reused on-site for dust suppression purposes and for irrigation of on site vegetation, where and when required. "Leachate" is water that has been in contact with waste including all water flowing from the proposed leachate collection system; all rainfall that would infiltrate through the landfill, both within the "active" filling areas and any finally capped

		areas; any contaminated waters disposed by injection into the landfill; and moisture contained within either the waste or any cover materials. The leachate pond would contain, store and treat all collected leachate. The proposed landfill facility would be graded to ensure that clean stormwater is diverted appropriately and managed on site. Dirty water and leachate runoff from the landfill would be directed to the sedimentation basin and the leachate pond, respectively. The leachate pond would contain, store and treat all collected leachate. In the unlikely or "emergency" case where the leachate pond overflows, all overflow waters would drain to the permanent sedimentation basin for emergency storage and appropriate treatment. A dry basin has also been included in the landfill design, which would provide emergency containment during large (greater than 1 in 100 year) rainfall events should any overflow occur from either the sedimentation basin or leachate pond. The Water and Leachate Management Plan (refer to **Appendix B** of the EA) details all aspects of the design and operation of the proposed water management system for the site including the leachate pond, sedimentation basin and dry basin. The water management system would contain all dirty and leachate water on the site. The Surface and Groundwater Monitoring Program and Management Plan (appended to the LEMP) details procedures for the management of surface water and groundwater including water quality monitoring and reporting.
S002a_3	P4	The landfill and pond design are based on recommended DECCW Landfill Guidelines Benchmark Techniques. The pond designs provide sufficient capacity so that no leachate or dirty water would be released to the environment.. The combination of composite landfill liner with a leachate collection system ensures maximum prevention of leachate leakage from the landfill into the surrounding environment. The LEMP outlines procedures for the efficient operation and management of the landfill to ensure landfill structures are used appropriately and the risk of leachate leakage from the landfill site is minimised. A groundwater and surface water monitoring program and management plan was developed in consultation with the former DEWHA for inclusion within the EA as per the DGRs. This was included as an appendix to the LEMP. The groundwater monitoring program is designed specifically to monitor the quality of groundwater at locations around the landfill. Additional monitoring in groundwater wells installed by RCA in 2007 is proposed. The additional well locations include: • BH10: southern end of eastern boundary of landfill cells (screened in Argillite; total depth 47.0m, groundwater detected at 41.0m); • BH11: northern end of western boundary of landfill cells (screened in Sandstone; total depth 36.0m, groundwater detected at 31.0m); and • BH12: northern end of eastern boundary of landfill cells (screened in Argillite; Sandstone to 30m, total depth 40.0m, groundwater detected at 35.0m). In the unexpected event of a leak occurring, it is noted that groundwater can be appropriately remediated however the method would be dependent on the source, extent and type of the contaminant (i.e. groundwater extraction, amelioration in situ, removal of contaminated subsoils). With the management measures proposed it is unlikely that remediation of the groundwater will be required.
S002a_4	P4 W4	The EA addressed potential impacts should leachate leak from the landfill liner, should stringent environmental management measures not be in place. It then addressed the residual impact once management and monitoring measures were included in the design and operation of the landfill. The mitigation measures provided in the EA are considered sufficient to contain all dirty water runoff and leachate within the appropriate storage pond. It is not

		anticipated that contamination by leachate would occur downstream. Stringent environmental controls to manage dirty stormwater runoff, leachate containment and emergency storage would be implemented and would reduce the likelihood of impacts to surface and groundwater. The landfill and pond design are based on recommended DECCW Landfill Guidelines Benchmark Techniques. The combination of composite landfill liner with a leachate collection system ensures maximum prevention of leachate leakage from the landfill into the surrounding environment. A review of available literature on the efficiency of different landfill linings was undertaken (refer **Appendix I**). Although the Leachate Collection and Conveyance Systems have a finite life ranging from under 70 years to over 200 years, the system will have a higher operational life provided that it is installed in accordance with the construction specifications including the CQA/CQC programmes and protection of the liners during and after construction. The LEMP will dictate efficient operation and management of the landfill to ensure landfill structures are used appropriately and the risk of leachate leakage from the landfill site is minimised. The site would also be managed in accordance with the EPL issued and monitored by the DECCW. The Water and Leachate Management Plan details all aspects of the design and operation of the Leachate Pond, Sedimentation Basin and Dry Basin. The Surface and Groundwater Monitoring Program and Management Plan (appended to the LEMP) details procedural responses to exceedances of monitoring trigger levels.
S002a_5	W1 W3 P6	The proposed landfill site is located within the upper reaches of the catchment (approx 275 hectares in area) and is sited between the Gara River to the east and Commissioners Waters River to the west. Surface runoff from the site flows to the north towards the ephemeral creek, which flows east and ultimately discharges into the Gara River, approximately 1km downstream of the site. The flood assessment undertaken for the project was in accordance with the procedures outlined in Australian Rainfall and Runoff (ARR) which is used as the guideline for the analysis and prediction of flood events in Australia for design purposes. ARR was used to predict the 1 in 100 year Average Recurrence Interval (ARI) storm event from the existing creek catchment at a point opposite the site. By definition, the 1 in 100 year ARI event is the event that will occur once every 100 years on average, and is not an "average" but a predicted peak flow. The resultant 1 in 100 year ARI peak flow of approximately 40m^3/s was predicted for the creek adjacent to the site. Note that this flow is to be passed through the north-eastern extent of the site (adjacent to the line of the creek) as per existing (natural) conditions and is not designed to be contained or controlled as part of the landfill operational requirements. Flooding during high rainfall events will occur along the existing ephemeral creek and will ultimately discharge into the Gara River, approximately 1km downstream of the site. Manning's equation was used to predict the flood level of the 1 in 100 year ARI peak flow in accordance with the procedures outlined ARR. The results indicated that flood levels would be approximately 1 to 1.5m above the creek banks resulting in a flow width of approximately 50m through the valley and would encroach on the north-eastern boundary (adjacent to the creekline) of the site. Given that the Dry Basin, which is the closest stormwater storage basin to the north-eastern boundary (adjacent to the creek), is approximately 8m above the existing creek banks and is located approximately 200m upslope of the creek, it was concluded that the Dry Basin, the landfill itself and the water and leachate containment system are well outside the extent of the predicted 1 in 100 year floodplain. It is noted that the site access road would need to cross the creek floodplain and may therefore be affected by flooding during high rainfall events. Road creek crossings will incorporate suitably designed pipe culverts to allow flows up to the 1

		in 100 year ARI to pass through and/or overtop the roadway in a safe manner. During flood events, waste transport to the site could be postponed until such time that the flooding recedes and safe access to the site is possible. Procedures during times of flooding will be outlined in the LEMP. The water management system has also been designed to contain the 24 hour duration, 1 in 100 year ARI surface runoff volume from the entire disturbed catchment area of the site in accordance with ARR guidelines. This is considered to provide adequate protection against heavy rainfall and ensure containment of onsite dirty and leachate water. The proposed stormwater pond (Dry Basin) incorporates adequate freeboard storage to contain the 24 hour duration, 1 in 100 year ARI surface runoff volume (which equates to 153 mm rainfall or approximately 19 ML storage) from the entire disturbed catchment area of the site, without further containment or storage actions needing to be implemented. In the event of an emergency, the sedimentation pond and/or dry basin have been designed with sufficient capacity to contain an emergency release from the leachate pond, with no release of leachate to the environment. The Water and Leachate Management Plan details all aspects of the design and operation of the proposed water management system for the site including the Leachate Pond, Sedimentation Basin and Dry Basin which would contain all dirty water runoff and leachate water generated from the landfill.
S002a_6	W1 W2 W3 W4	The potential climate change impacts and proposed adaptation measures for the project are described in **Section 8.17** of the EA. The effects of climate change were taken into consideration for the sizing of the leachate pond. The rainfall data used in the modelling was amended to reflect the projected worst case rainfall changes resulting from climate change. Future evaporation rates were assumed to be negligible, which represents the worst case for evaporation (i.e. no loss of water to the atmosphere). The water balance model was run taking account of the revised rainfall values and assuming that evaporation rates remain negligible, and concluded that the leachate pond with 12ML capacity would be sufficient to manage the leachate that would be generated during operation of the proposed landfill, including allowance for climate change predictions.
S002a_7	P4	The water management system identifies that in the 'emergency' event leachate could be transported to the Sewage Treatment Plant (STP), a licenced facility. Leachate would be treated at the STP in accordance with licence requirements and disposal of the treated water would occur in accordance with the site's EPL requirements issued by the DECCW.
S002a_8	P4 W4	The landfill and pond design are based on recommended DECCW Landfill Guidelines Benchmark Techniques and demonstrates compliance with Australian best practice. The combination of composite landfill liner with a leachate collection system ensures maximum prevention of leachate leakage from the landfill into the surrounding environment. Also refer to S002a_4. A Surface and Groundwater Monitoring Program and Management Plan (appended to **Appendix B** of the EA) was developed in consultation with DSEWPC (formerly DEWHA) for inclusion within the EA as per the DGRs. The groundwater monitoring program is designed specifically to monitor the quality of groundwater at locations around the boundary of the landfill. Additional monitoring in groundwater wells installed by RCA in 2007 is proposed. The additional well locations include: • BH10: southern end of eastern boundary of landfill cells (screened in Argillitte; total depth 47.0m, groundwater detected at 41.0m); • BH11: northern end of western boundary of landfill cells (screened in

		Sandstone; total depth 36.0m, groundwater detected at 31.0m); and • BH12: northern end of eastern boundary of landfill cells (screened in Argillitte; Sandstone to 30m, total depth 40.0m, groundwater detected at 35.0m).
S002a_9	W4	Specialist studies indicate that the travel distance of approximately one (1) km from the site to the Gara River would be substantially longer once the actual flow paths through the fractured rock is taken into account. Considering the low permeability of the rock and the expected capacity of the clays and silts to naturally attenuate any fugitive contaminants, any significant impacts to potential receptors would be extremely unlikely. In the unexpected event of a leachate leak, it would be detected in monitoring wells and appropriately remediated.
S002a_10	W4	In the unexpected event of a leak occurring, it is noted that groundwater can be appropriately remediated however the method would be dependent on the source, extent and type of the contaminant (i.e. groundwater extraction, amelioration in situ, removal of contaminated subsoils). Should it be determined that the landfill is the cause of groundwater quality degradation, Council would evaluate measures to remediate groundwater as part of a groundwater contingency plan which would be prepared in consultation with DECCW. The Surface and Groundwater Monitoring Program and Management Plan (appended to the LEMP in **Appendix B**) sets out the proposed groundwater monitoring programme, which is designed specifically to detect and manage the quality of groundwater over the life of the landfill. Monitoring would also be undertaken post-closure of the landfill in accordance with the Closure Plan to be prepared for the site.
S002a_11	GS2	Modelling is used to predict the potential environmental impacts of a project such as noise, air quality, dust, hydrogeology (groundwater) and flooding. Modelling is a tool that allows the potential impacts of a project on the environment to be quantified. The assumptions and therefore the outputs of the modelling undertaken for the specialist studies in the EA were generally conservative and were used to determine 'worst case' potential impacts. Comparing existing environmental conditions with the outputs of the modelling helps to determine the magnitude of potential impacts associated with the project. With the understanding of the magnitude of potential impacts of the project, the most appropriate mitigation and management measures can be designed to reduce the likelihood of impacts on the environment. In order to undertake the assessment of potential environmental risk of a leachate leak, a conceptual site model (CSM) was developed. The CSM was informed by data collected in the field and by published literature in the form of geological maps and relevant other information. The leachate leakage risk assessment process for the proposed landfill (Refer to **Appendix I** of the EA) was conservative and used the site data that were available. The process showed the local geological environment to be reasonably complex having a series of different separate geological units, variable depths to groundwater and compromised groundwater quality. This indicated that the hydrogeological regime in the area appeared to be reasonably static with little demonstrable flow regime or hydraulic gradient (i.e. groundwater moving down hill toward an eventual discharge point). In the risk assessment the discharge point was considered to be the Gara River. It is likely that in the greywacke, slate, claystone, conglomerate geological units present at the site there would be limited porosity and groundwater would be mostly contained in fractures, faults, bedding planes and so on. It appears apparent from the variable depths to groundwater reported by RCA that these units are not well connected laterally and have low hydraulic conductivities (a

		measure of a geological unit's ability to transmit water). In this type of hydrogeological regime high residence times for groundwater would not be unusual and flow paths would be tortuous, slow and unlikely to be direct to the Gara River. The risk assessment undertaken assumed that groundwater would flow in the direction of the Gara River and eventually discharge to it, both of which are potentially conservative assumptions. In a fate and transport model, such as that developed in the Hydrogeological Leachate Assessment, an estimated flow time of 700-800 years is a very long time and in effect implies that the pathway for compounds migrating in groundwater is not likely to be realised.
S002a_12	W4	The landfill and pond design are based on recommended DECCW Landfill Guidelines Benchmark Techniques. This demonstrates compliance with the acceptable standard for landfilling developments provided by Australian and NSW regulators. The combination of composite landfill liner with a leachate collection system ensures maximum prevention of leachate leakage from the landfill into the surrounding environment. A review of available literature on the efficiency of different landfill linings was undertaken (refer Appendix I for detailed study). The LEMP dictates efficient operation and management of the landfill to ensure landfill structures are used appropriately and the risk of leachate leakage from the landfill site is minimised. Precautionary measures include the on-site environmental controls to manage dirty stormwater runoff, leachate containment and emergency storage, in addition to downstream monitoring. Additional monitoring and contingency plans would be implemented if required.
S002a_13	P4	The landfill and pond design are based on recommended DECCW Landfill Guidelines Benchmark Techniques. This demonstrates compliance with the acceptable standard for landfilling developments provided by Australian and NSW regulators. The construction and operation of the proposed landfill facility would be in accordance with the LEMP, associated sub-plans and conditions of the EPL for the site as determined by DECCW. As part of the site selection process, over 50 sites were evaluated for the proposed landfill facility. The *Regional Landfill Siting Study Final Report* (Maunsell, 2004) was appended to the EA (refer **Appendix C** of the EA) and concluded that the current site was the most suitable of the sites considered with respect to the identified site selection criteria.
S002a_14	FF3 H1	No groundwater dependent ecosystems have been identified in the study area or in the OWRNP (refer to Flora and Fauna Assessment included as **Appendix E** of the EA). Furthermore, the proposed works are not likely to significantly impact on groundwater dependent ecosystems in the study area or further downstream in the OWRNP. That is, the proposed works are not likely to significantly impact on *ecosystems which have their species composition and natural ecological processes wholly or partially determined by groundwater* within the study area or further downstream in the OWRNP. Potential impacts to the Oxley Wild Rivers National Park were considered in **Section 8.8** and **8.12** of the EA and in the Flora and Fauna Assessment (**Appendix E** of the EA). The assessment concluded that no groundwater dependent ecosystems have been identified in the study area or in the OWRNP. The DGRs for the project did not require a detailed assessment of the riparian and aquatic communities in the OWRNP. As outlined in the EA, with the implementation of the proposed mitigation measures significant impacts on the

		OWRNP and GRAWHA are unlikely.
S002a_15	FF5	Potential impacts to biodiversity, including threatened species, were addressed in the Flora and Fauna Assessment (**Appendix E** of the EA). Potential impacts to Box Gum Woodland (an EEC) in the area were also addressed. Assessments of Significance were undertaken for these species and are provided in **Appendix A** of the Flora and Fauna Assessment (**Appendix E** of the EA). Less than 1 ha of the Box Gum Woodland and 3.3 ha of grassland (degraded Box Gum Woodland) will be cleared from the TSR for the access track. This is unlikely to be significant to the long term survival of the EEC. Approximately 0.6 hectares of Box-gum woodland in the TSR would be cleared in the construction of the access road. This loss of habitat would be offset within the biodiversity offset area of approximately 61 hectares that would be provided as part of the proposal. It would surround the landfill footprint and connect to the TSR. The impacts on flora and fauna will be minimised through implementation of the mitigation measures outlined in **Section 8.8.16** of the EA and **Section 4** of the Flora and Fauna Assessment (**Appendix E** of the EA). In addition to minimising the extent of clearing, taking a staged approach to clearing and providing approximately 61 hectares of compensatory habitat (biodiversity offset), Appendix E (p. 35) clearly outlines the mitigation measures proposed to mitigate the *'fragmentation of woodland habitat '* and *' associated edge effects and reduced connectivity'* which could result from clearing a very small area of habitat within the TSR. These include: • Design layout of landscaping, vegetated buffers and other revegetation works to enhance connectivity between patches of remnant vegetation both within the landfill site (e.g. offset areas, access road verges) and between the offset areas and woodland patches on adjoining properties; • Progressive rehabilitation and revegetation of successively spent cells of the landfill, with shallow-rooted grasses, herbs and shrubs to provide some cover, to minimise the impact of fragmentation of Stringybark Woodland on the subject site; and • Allow and encourage, over time, the cleared native grassland to revert to Box Gum Woodland, with enhancement plantings of these tree species, to increase connectivity between the TSR and the landfill site. Impacts associated with vegetation clearance will also be managed through implementation of a suite of management plans including a VMP, Biodiversity Offset Management Plan (**Appendix H** of the EA) and Vegetation Clearing Protocol. Further details of the contents of these plans are provided in Section 4 of the Flora and Fauna Assessment (**Appendix E** of the EA). These plans will be developed during detailed design of the landfill and prior to construction. The plans would be prepared in consultation with relevant government agencies (e.g. DECCW and DSEWPC) and in accordance with best practice guidelines and Recovery Plans for threatened species.
S002a_16	FF2	Potential impacts to the OWRNP and GRAWHA were considered in **Section 8.8 and 8.12** of the EA and in the Flora and Fauna Assessment (**Appendix E** of the EA). The assessment of significance considered known and potentially occurring threatened species within 20 km of the study area, including portions of the Oxley Wild Rivers National Park. No specific impacts on individual threatened species or EECs that may occur in the Oxley Wild Rivers National Park were identified. Known habitat is present within the study area for the Koala and five threatened birds. Assessments of Significance were undertaken for these species and are provided in **Appendix A** of the Flora and Fauna Assessment. The assessment concluded that the study area does not contain core or potential Koala habitat, as defined by SEPP 44. However, a Yellow Box within the Stringybark Woodland appears to be used significantly by Koalas and as such, the tree will be retained

		(tree #3 as noted by the submission). The Flora and Fauna Assessment concluded that the proposed works would have a significant impact on local populations of the five threatened birds. This will be offset by setting aside adjacent areas of similar vegetation type that are likely to respond to conservation measures which will permanently improve biodiversity values of the offset area. The impact to the threatened birds will be greatly reduced by provision of these offset areas. The impacts of the project will be further minimised through implementation of the mitigation measures outlined in Section 4 of the Flora and Fauna Assessment (**Appendix E** of the EA). Direct impacts to native species that occur in the study area and indirect impacts to species that occur offsite will also be managed through implementation of management plans as presented in Section 4 of the Flora and Fauna Assessment (**Appendix E** of the EA). These plans will be developed during detailed design of the landfill and prior to construction. The plans would be prepared in consultation with relevant government agencies (e.g. DECCW and DSEWPC) and in accordance with best practice guidelines and Recovery Plans for threatened species.
S002a_17	FF2	Construction of the access road to the proposed landfill facility would necessitate the removal of approximately 0.6ha of Box-Gum Woodland. This area of impact is within the 12.7ha of woodland area to be impacted and for which biodiversity offset will be provided. Box-gum woodland is listed as an EEC under the TSC Act and listed as a CEEC under the EPBC Act. An assessment of significance for the CEEC was undertaken (refer Appendix B of the Flora and Fauna Assessment, **Appendix E** of the EA). The assessment stated that *potential impacts have been identified but are not considered to be significant for any of these threatened species and communities*. The Flora and Fauna Assessment found: • *The proposed clearing is not likely to adversely affect habitat critical to the survival of an ecological community since the strip to be cleared is in an area that has previously been cleared.* • *The proposed clearing is not likely to modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for the community's survival since drainage and erosion control measures will be incorporated into design and construction of the access road.* • *The proposed clearing is not likely to cause a substantial change in the species composition of an occurrence of an ecological community since the proposed mitigation measures and remnant vegetation conservation management plan will minimise negative impacts on E. nicholii in this patch of Box Gum Woodland.* • *The proposed clearing is not likely to interfere with the recovery of Box Gum Woodland since the proposed mitigation measures and vegetation management plan will minimise negative impacts on this patch of Box Gum Woodland. A recovery plan has not been prepared for this CE ecological community.* The Biodiversity Offset Area Management Plan prepared for the site (refer to **Appendix H** of the EA) will be finalised in consultation with DECCW and DSEWPC prior to construction. The impacts of removal of 0.6 ha of Box-gum woodland will be minimised through implementation of the Compensatory Habitat Offset Plan, the Vegetation Clearing Protocol and Native Fauna Management Plan. The measures to be included in these plans are provided in Section 4 of the Flora and Fauna Assessment (**Appendix E** of the EA). They include staged clearing and rehabilitation, provision of compensatory habitat, collection of locally sourced seeds for direct seeding and / or propagation, maintaining a buffer of at

		least 30 m around threatened eucalypts, avoiding habitat trees and locating the access road in a largely cleared area.
S002a_18	FF2	The environmental assessment for the proposed landfill has been completed in accordance with the requirements of the NSW EP&A Act Part 3A approvals process, which has been accredited by the Commonwealth for this project. Where impacts on biodiversity have been identified, appropriate mitigation measures have been proposed to reduce the residual impacts on the environment. The biodiversity offset area, a proposed measure to offset the impacts on the EEC, has been designed in accordance with the DECCW *Principles for the use of biodiversity offsets in NSW*. The proposed 3:1 offset ratio has been agreed with DECCW (refer to correspondence included in **Appendix A** of the EA) and the biodiversity offset area has been accepted by DECCW as an appropriate measure to offset the impacts on the EEC. Offsets are a legitimate option under the *EPBC Act 1999*. The EPBC Act provides a framework for using offsets and defines the circumstances in which they can be applied. Offsets can be required as an approval condition and would be subject to the same legislative requirements that apply to all approval conditions under Part 9 of the EPBC Act. The Biodiversity Offset Area Management Plan prepared for the site (refer to **Appendix H** of the EA) will be finalised in consultation with DECCW and DSEWPC prior to construction.
S002a_19	FF2	The proposed offset areas are in addition to mitigation measures proposed for the site in the flora and fauna assessment (Appendix E of the EA). The proposed mitigation measures to reduce the impacts on threatened species resulting from vegetation clearance include assisted regeneration of degraded habitat, relocation of logs from log-piles, fencing, and pest and weed control. With respect to the time-lag between clearance and establishment and functioning of the offset habitat, the Proponent recognises that there can be difficulties associated with restoring woodland habitat and habitat development will be progressive over many years. However, construction of the landfill cells and associated infrastructure would not commence until offsets have been designated and rehabilitation of suitable areas of the site have commenced. Fencing and rehabilitation of the offset areas would commence as early as possible. In addition, the clearing of vegetation on site will not occur immediately or all at once, i.e. unused cells will not be cleared until they are needed. Not all the vegetation on site will be removed, only vegetation within the footprint of the landfill and associated infrastructure, and each cell of the landfill will be rehabilitated as it is completed.
S002a_20	FF2 O2	Pest and vermin monitoring would be undertaken on a regular basis at the Project Site. Careful management of the site will reduce the likelihood of occurrence of vermin and pests. Management measures include minimising the area of exposed tipping face and daily cover of the landfill to discourage vermin and reduce odour emissions. During the day dispersion methods would be undertaken to ensure the open face is free from pests, vermin and predatory birds. The success of mitigation would be reviewed to ensure impacts to threatened species do not occur as a result of predation. Should the proposed techniques be unsuccessful in deterring pests and vermin, further investigations for additional measures would be undertaken such as engaging a specialist firm of exterminators if required. A Pest Management Plan will be developed to minimise the potential impacts of pest animals such as rabbits, rodents, cats, crows and flies. This plan will include measures such as provision of fencing, poisoning of pest animals, redistribution of log piles, covering of waste and ongoing monitoring. A Disease Monitoring Protocol would be prepared which will identify potential pests and diseases and appropriate management measures for controlling these. Contingency plans to

		deal with outbreaks that may be detected on site during operation will be prepared. The above mitigation measures are considered sufficient to deter vermin, pests and predatory species from the site.
S002a_21	P2	Over 50 alternative sites were considered for the proposed landfill facility as part of the site selection process, including sites within several of the surrounding LGA's. Site evaluation included consideration of environmental impacts, proximity to sensitive receivers and their likely magnitude at each site. The *Regional Landfill Siting Study Final Report* (Maunsell, 2004) was appended to the EA (refer **Appendix C** of the EA) and concluded that the current site (Site 7) was the most suitable of the sites considered with respect to the identified criteria. Inherent with most siting studies is that selection criteria will be met in varying degrees by different sites. The weighting developed was a means by which this varying degree of compliance with the criteria could be expressed to allow comparison between the potential sites. The criteria and weightings applied in the Maunsell (2004) study were agreed in consultation with the Armidale Dumaresq Landfill Community Consultation Committee (ADLCCC). Site 7 was found to be suitable for a potential landfill. Based on the selection criteria and in comparison to the other sites evaluated, it was found to be the most suitable site of the sites considered, based on the work performed at that time. The studies undertaken as part of the environmental assessment have confirmed that the site is suitable for the proposed landfill and that engineering design and appropriate management measures can be implemented so that the proposal will not have significant residual impacts on the environment.

Submission S002b

Issue Number	Topic	Response
S002b_1	E3	In 2004, Council sought tenders from suitably qualified consultants to provide project management and consultancy services to manage the design, planning, environmental assessment, land acquisition and construction project management for the new regional landfill. AECOM was engaged by Council through this competitive tender process. AECOM has extensive experience in the design, planning and management of large and small landfills, and therefore has a well developed understanding of the impacts of landfill construction and operation on the environment. More importantly, AECOM has an in-depth, practical and applicable understanding of management and mitigation measures required to minimise the impacts of landfill developments on the environment. Throughout the commission to date, AECOM has provided relevant technical and environmental information to Council as required as part of the original requirements of the agreed contract. In addition, AECOM has also undertaken additional work as variations to the agreed contract, as requested by Council . The additional work has been undertaken to provide a more robust design and assessment for the proposed landfill project. Information provided to the public by AECOM has and will continue to be reviewed and agreed by the Council project team prior to distribution. The project is owned by Council and AECOM was engaged as a technical advisor and Project Manager to Council.
S002b_2	E3	Information and correspondence provided to the public by EA Systems (now EnviroAg) has and will continue to be reviewed and agreed by the Council project team prior to distribution. DSEWPC (which was DEWR at the time of the referral) is required under the EPBC Act to allow a public comment period of 10 business days (with no extensions). Newsletter 4 was issued by Council in August 2007 and provided details of the Commonwealth public comment period as well as the contact details for the public to provide comment to DEWR.
S002b_3	E3	A suite of mitigation measures and environmental controls to manage dirty stormwater runoff, provide leachate containment and emergency storage would be implemented and would reduce the likelihood of impacts of the project on surface and groundwater. This resulted in a conclusion that 'no significant impact' would be anticipated, which was the conclusion presented in the EPBC Act Referral submitted to the Commonwealth. DSEWPC determined that the proposal constitutes a controlled action under the EPBC Act. Note that the paraphrasing of the EPBC decision in the Newletters or subsequently in the EA did not affect the assessment of likely impacts on the GRAWHA or the outcome of the assessment. The nature of the assessment process under the EPBC Act is such that determinations are made without having regard to mitigation measures that would be implemented. However, the mitigation measures proposed will reduce the likelihood of significant impacts on the environment including the World Heritage Area.
S002b_4	E3	As described in **Section 6.1** of the EA, the proposed development requires approval under the EPBC Act. Assessment requirements of the Commonwealth have been incorporated into the formal requirements of the NSW State Government and while the State process is the primary mechanism for assessment, the project will ultimately be reviewed for approval at both State and Commonwealth levels on this basis.
S002b_5	E3	As described in **Section 5.5** of the EA, Council will seek an operating licence to landfill putrescible material to accommodate the essential intermittent need for disposal of material for which stabilisation or composting is not a practical option. Emanating from this commitment is the need to augment Council's current processing facilities to deal with putrescible waste by way of composting of organic waster or stabilisation of residual waste containing putrescible material before landfilling - commonly referred to as AWT. Council is currently trialling and evaluating AWT at the Long Swamp Road Waste Transfer Facility before full scale adoption and implementation. Once the appropriate additional off-site sorting and/or treatment technologies are able to be employed, Council is proposing to operate the proposed landfill as a non-putrescible facility until final closure. Council staff and consultants had previously identified in relation to Site 7 that the facility was intended to operate essentially as a Solid Waste Class 2 or Non-putrescible landfill but would be licencing the facility as a Solid Waste Class 1 or putrescible landfill. This is in order to cover the odd occasion when disposal of difficult putrescible material would be required where such material is not suited to the composting or stabilising process that would be adopted for the proposed AWT facilities at the Long Swamp Road site. It is recognised that an AWT facility is not a substitute for landfill. It is envisaged that the AWT would further contribute to Council's waste diversion from landfill and therefore minimise any future waste levy charges.
S002b_6	E3	An email update provided by the Council project team to the Local Member, copied to Councillors and GVEPA, provided a response to the letter from GVEPA dated 3 March 2008. Newsletter 5 was subsequently prepared to provide further information to the public about the referral determination that the project is a Controlled Action. The newsletter was issued in April 2008 and placed on the

Armidale Regional Landfill
Environmental Assessment - Submissions Report
AECOM

		Council website.
S002b_7	C1	**Section 7** of the EA describes the consultation that has been undertaken during the environmental assessment process to date. Consultation with the community was planned and targeted to include landowners nearest the proposal, as well as residents along the transport route, specialist interest groups and the wider community. A range of media have been used during community consultation, including newsletters, website updates, media releases, public displays and direct contact with neighbouring landowners. Key issues raised by the public have been considered during the preparation of the EA and specialist studies to support the EA. Under Section 75H (3) of EP&A Act, the Director General of the DoP is required to exhibit the EA for a period of 'at least 30 days'. Given the size of the EA and previous comments from the public suggesting the exhibition period be extended to allow sufficient time for the public to comprehend the information contained within it, the EA was placed on exhibition for a period of 60 days. It is noted that during the period that the EA was on Public Exhibition, the DoP website experienced technical difficulties with the electronic collection of submissions. In light of this issue, DoP accepted submissions for a further 30 days beyond the already 60 day exhibition period. During the exhibition period the public was able to submit written comments on the proposal. The comments raised during the exhibition period have been considered by the Proponent and its Consultant and responses were prepared and compiled in this Submissions Report.
S002b_8	E3	Consideration of the principles of Intergenerational Equity, is outlined in **Section 11.2** of the EA. The proposed landfill facility is part of Council's long term waste management strategy and has been planned to provide a service for the disposal of community waste for a period of 50 years or more. The landfill has been designed in accordance with the NSW EPAs Environmental Guidelines: Solid Waste Landfills and the detailed design will be aimed at achieving the most environmentally beneficial outcome for the effective treatment and disposal of waste so that the landfill operates effectively into the future and does not give rise to any long term environmental effects.

Submission S002c

Issue Number	Topic	Response
S002c	C2	The attached submission to DSEWPC (formerly DEWHA) is noted. This submission was received and accepted by DSEWPC as part of the referral process in which DSEWPC made the determination of the proposal to be a controlled action.

I am against the landfill proposal for two reasons, particularly.
1. I believe that the risk of future groundwater contamination in the Gara Gorge World Heritage Area is too great. No current evidence reassures me that contamination will never occur nor that any negative impacts can be remediated appropriately. S003_1
2.No matter how they try it will be impossible to disguise the purpose of the site from the road and I believe that this is an appalling first impression for the town and district to create for visitors when we are more and more reliant on tourism. S003_2
This is another example of Council deliberately over-riding the wishes of residents on local planning issues.

Name [redacted]

Address:
[redacted]

IP Address: [redacted]

Submission for Job: #81 Armidale Landfill Project
https://majorprojects.onhiive.com/index.pl?action=view_job&id=81

Site: #74 Armidale-Dumaresq Waste Facility
https://majorprojects.onhiive.com/index.pl?action=view_site&id=74

Felicity Greenway

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Submission S003

Issue Number	Topic	Response
S003_1	W2	The proposed landfill would be constructed (for the most part) above natural ground level, and the existing groundwater monitoring wells are located in bore holes well below the ground surface. The groundwater monitoring program is designed specifically to monitor the quality of groundwater at locations around the landfill. The Water and Leachate Management Plan details all aspects of the design and operation of the Leachate Pond, Sedimentation Basin and Dry Basin. The Surface and Groundwater Monitoring Program and Management Plan (appended to the LEMP) details procedural responses to exceedances of monitoring trigger levels. Groundwater pollution would be mitigated through the implementation of the proposed monitoring and management measures outlined in the EA, Water and Leachate Management Plan and Surface and Groundwater Monitoring Program and Management Plan. In the unexpected event that groundwater contamination is detected during monitoring, groundwater remediation would be undertaken. The type of remediation would be dependent on the source, extent and type of the contaminant (i.e. groundwater extraction, amelioration in situ, removal of contaminated subsoils).
S003_2	V1 SE3	The site would be screened by the offset planting proposed as per the EA. Visual representations of the various viewpoints were considered as part of the EA. All existing trees and known tree heights were included in the visual representations in addition to the final profile of the proposed landfill mass (refer **Figures 30** to **35** of the EA). It should be noted that these montages did not take into account future screening from the proposed biodiversity offset area. It is noted that the Waterfall Way is a National tourist drive and this is acknowledged in the EA. It is also noted that views towards the Project Site from Receivers 4 and 5 (and indicatively the Waterfall Way) are considered to be reasonably significant, however these views would be partially masked by existing vegetation and further obstructed by vegetation once the offset area has matured.

Armidale Landfill Project
Application Number: 06_0220

The following is a submission which opposes the construction of a Regional Landfill in a World Heritage Catchment immediately upstream from the Oxley Wild Rivers National Park.

I am very worried that the proposed landfill will be detrimental and damaging to our nearby wilderness area through uncontrolled litter, leachate and weed contamination. S004_1

My family and friends regularly enjoy camping on the Macleay River near Georges Creek on the Kempsey Road and swimming in the 'Blue Hole' picnic area in the Gara River. If pollution gets into the Gara and Macleay Rivers the contamination will affect the unique ecosystem and 'World Heritage Values' that have been noted for the area. S004_2

Ecosystems and species reliant on the water quality such as frogs, fish and invertebrates should not be jeopardised by a landfill which cannot be guaranteed to be secure.

We are obligated to protect our world Heritage Areas and we are very fortunate to have this area on Armidale's doorstep.

The 'Blue Hole' is only about 3 km downstream from the proposed dump and I for one will be hesitant in swimming again with a dump upstream. Who knows what chemicals, animals, nappies and sanitary products will find their way in and out of the dump? S004_3

The further East of Armidale we go the higher the rainfall and the more undulating the countryside. It just doesn't make sense to choose a location where the dangers are increased because of these factors. S004_4

I call on the Department of Planning to reject the proposed site in favour of an option that will not impact on our National Parks and World Heritage Areas.

Regards,

[redacted]

Submission S004

Issue Number	Topic	Response
S004_1	V3 W4 FF4	The proposed landfill facility will accept General solid waste (putrescible) which includes household waste, manure, disposable nappies, food and animal waste and litter bin waste collected by local councils. No toxic or chemical wastes would be disposed of at the proposed landfill facility. A Pollution and Litter Management Plan for the operation of the landfill would be prepared and implemented for the site to ensure litter is contained. Measures to be included in this plan have been outlined in **Section 8.8.16** of the EA. The Pollution and Litter Management Plan would comply with the relevant conditions set out in the Environment Protection Licence and Project Approval regarding litter management. Stringent environmental controls to manage dirty stormwater runoff along with leachate containment and emergency storage would be implemented and would reduce the likelihood of impacts to surface and groundwater. In the unexpected event that leachate enters the groundwater, diluted concentrations reaching the downstream Gara River would not pollute the existing environment or have a significant impact on flora and fauna downstream. The potential impacts from weeds are addressed in **Section 8.8** of the EA. The preparation and implementation of a Weed Management Plan (WMP) would aim to minimise the spread of weeds within the proposed landfill site and to adjacent areas of native vegetation. The plan would provide actions to control existing weed infestations on the site prior to construction, utilise a wheel wash facility for all vehicles entering or leaving the site to prevent transport of weeds, and provide targeted monitoring and control of invasive species that may be harmful to threatened species and Endangered Ecological Community or other potential habitat for fauna species. Measures would also be identified in the VMP which would outline ongoing monitoring and follow-up controls of weeds that establish on disturbed areas, with particular attention to the eradication of noxious weeds.
S004_2	H1 W4 FF1	Community concerns have been noted regarding potential for pollution of the Gara River through leachate migration from the landfill and these issues are addressed in **Sections 8.3** and **8.4** of the EA. **Section 8.12** of the EA addresses National Environmental Heritage (Oxley Wild Rivers National Park) which supports the GRAWHA. The impact on the GRAWHA has been assessed under the EPBC Act 1999 and a referral lodged with DSEWPC (formerly DEWHA). DSEWPC determined that the proposal constitutes a controlled action under the EPBC Act. The nature of the assessment process under the EPBC Act is such that determinations are made without having regard to mitigation measures that would be implemented. However, the measures proposed in the EA will reduce the likelihood of significant impacts on the environment including the World Heritage Area. Stringent environmental controls to manage dirty stormwater runoff along with, leachate containment and emergency storage would be implemented and would reduce the likelihood of impacts to surface and groundwater. In the unexpected event of a leak, diluted concentrations reaching downstream would not pollute the existing environment at the OWRNP or have a significant impact on the World Heritage Area. An assessment of biodiversity including potential impacts of the proposed landfill facility on flora, fauna and habitat was presented in **Appendix E** of the EA and summarised in **Section 8.8** of the EA. Further, the Surface and Groundwater Monitoring Program and Management Plan (appended to the LEMP in **Appendix B)** is designed specifically to detect and manage the quality of surface water and groundwater. In the unexpected event that leachate enters the groundwater, diluted concentrations reaching the downstream Gara River would not pollute the existing environment or have a significant impact on flora and fauna downstream. Direct impacts to native species that occur in the study area and indirect impacts to species that occur offsite will also be managed through implementation of a suite of management plans. Further details of the contents of these plans are provided in **Section 4** of the Flora and Fauna Assessment (**Appendix E** of the EA). These plans will be developed during detailed design of the landfill and prior to construction. The plans would be prepared in consultation with relevant government agencies (e.g. DECCW and DSEWPC) and in accordance with best practice guidelines.
S004_3	V3 W4	The proposed landfill facility will accept General solid waste (putrescible) which includes household waste, disposable nappies, food waste and litter bin waste collected by local councils. No toxic or chemical wastes would be disposed of at the proposed landfill facility. Waste would be screened and sorted at the existing Waste Management Centre prior to transportation to the proposed landfill. The generator, transporter or Armidale Waste Management Centre staff would be requested to assess and classify the material prior to its arrival at the proposed new landfill. Loads arriving at the proposed landfill would be checked for non-conformance. Litter management was considered in **Section 5.5.6** of the EA. The LEMP (**Appendix B** of the EA) sets out the control measures to prevent impacts from litter. A Pollution and Litter Management Plan for the operation of the landfill would be prepared and implemented for the site to ensure litter is contained. Stringent environmental controls to manage dirty stormwater runoff, leachate containment and emergency storage would be implemented and would reduce the likelihood of impacts to surface and groundwater.
S004_4	W3 P2	The proposed landfill site is located within the upper reaches of the catchment (approx 275 hectares in area) and is sited between the Gara River to the east and Commissioners Waters River to the west. Surface runoff from the site falls to the north towards an ephemeral creek which flows east and ultimately discharges into the Gara River, approximately 1km downstream of the site. The flood assessment undertaken for the project was in accordance with the procedures outlined in Australian Rainfall and Runoff (ARR) which is used as the guideline for the analysis and prediction of flood events in Australia for design purposes. As part of the site selection process, several alternative sites were considered for the proposed landfill facility. Criteria analysed during the site selection process included: • Strategic planning guidelines; • Statutory planning issues; • Ground and surface water environment; • Local amenity and environmental considerations; • Level of Service; • Adequacy of existing services; • Set-up costs; • Operational costs; • Site features required; and • Social issues.

Armidale Regional Landfill
Environmental Assessment - Submissions Report
AECOM

		The relative importance of each primary criteria was weighted using a scale ranging from 'relevant' to 'essential'. The ranking process was determined to account for potential environmental issues and constraints as well as giving weightings to those criteria considered to be of greater significance for design purposes. The *Regional Landfill Siting Study Final Report* (Maunsell, 2004) was appended to the EA (refer **Appendix C** of the EA). This concluded that the current site was the most suitable of the sites considered with respect to the assessment criteria determined as part of the site selection process.

S005a_1

I have two major concerns about this proposal. The first is that the inevitable run-off will impact on the Oxley Wild Rivers National Park. Several reports have already indicated that the proposal is environmentally unacceptable. The second is that the proposal is likely to have a negative impact on the visual approaches to Armidale. S005a_2

I believe that with the proposed restructure of the LGA, alternative sites would be available which are not within the catchment of an Australian World Heritage area. S005a_3

Name [redacted]

Address:
[redacted]

IP Address: - [redacted]

Submission for Job: #81 Armidale Landfill Project
https://majorprojects.onhiive.com/index.pl?action=view_job&id=81

Site: #74 Armidale-Dumaresq Waste Facility
https://majorprojects.onhiive.com/index.pl?action=view_site&id=74

Felicity Greenway

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Re: Proposed Armidale Dumaresq Regional Landfill, 06_0220

Dear Ms Greenway,

I am writing to lodge my strong objection to the current proposal to build a regional landfill off the Waterfall Way and close to the Gara River.

My objection to this proposal is based on my concerns about the damage that will be done to a World Heritage National Park - the Oxley Wild Rivers National Park. My family and I often enjoy being in that Park and believe that the proposal to build a landfill upstream will adversely affect the Park. It is not a matter of 'if' there is toxic run off from a landfill such as this, it is 'when'. Despite elaborate containment structures, contamination of downstream water will occur - perhaps in two years, perhaps in ten. Once it has occurred, however, it can not be undone. S005b_1 S005b_2

I believe that the local Council should take heed of the reports it has received about this proposal, including that of the Australian Government's Environmental Protection and Biodiversity Committee (EPBC) in 2007, and abandon the building of the landfill in its current location. I believe that there must be alternative locations available to Council which could be developed with much less environmental impact. S005b_3

[redacted]

Submission S005

Issue Number	Topic	Response
S005a_1	W1	Management measures are designed to prevent dirty and contaminated water runoff during construction and operation of the proposed landfill facility. Mitigation measures include a geosynthetic liner system, water management system and leachate barrier and collection system. Leachate would be collected and transferred via pipes to the Leachate Pond which would be lined in accordance with the DECCW *Benchmark Techniques*. Should excessive rainfall endanger overflow of the Leachate Pond, a water management system exists to transfer water between the Sedimentation Basin or the STP (during an emergency) as shown on **Figure 8** of the EA. In the unexpected event that this system fails, diluted concentrations reaching the downstream Gara River would not pollute the existing environment at the OWRNP or have a significant impact on the World Heritage Area.
S005a_2	V2	It is noted that views towards the Project Site from Receivers 4 and 5 (and indicatively of the Waterfall Way) are considered to be reasonably significant, however these views would be partially masked by existing vegetation and further obscured once vegetation in the offset area matures. Visual representations of the various viewpoints were shown in **Figures 30** to **35** of the EA.
S005a_3	P3	As part of the site selection process, several alternative sites were considered for the proposed landfill facility including sites within several of the surrounding LGA's. Over 50 sites have been evaluated through the site selection process since the mid-1990s.
S005b_1	H1	The impact on the GRAWHA has been assessed under the EPBC Act and a referral lodged with DSEWPC (formerly DEWHA). DSEWPC determined that the proposal constitutes a controlled action under the EPBC Act. The nature of the assessment process under the EPBC Act is such that determinations are made without regard to mitigation measures that would be implemented. However, the measures proposed in the EA will ensure that there will be no significant impacts on the environment including the World Heritage Area. Environmental controls to manage dirty stormwater runoff along with leachate containment and emergency storage as part of the proposal and would reduce the likelihood of impacts to surface and groundwater. In the unexpected event that leachate enters the groundwater, diluted concentrations reaching downstream would not pollute the existing environment at the OWRNP or have a significant impact on the World Heritage Area.
S005b_2	W4	The Water and Leachate Management Plan details all aspects of the design and operation of the Leachate Pond, Sedimentation Basin and Dry Basin. The Surface and Groundwater Monitoring Program and Management Plan (appended to the LEMP) details procedural responses to exceedances of monitored trigger levels.
S005b_3	P3	As part of the site selection process, several alternative sites were considered for the proposed landfill facility including sites within several of the surrounding LGA's. The site selection evaluated over 50 sites since the mid 1990s. The site selection process included consideration of environmental impacts and their likely magnitude at each site. The *Regional Landfill Siting Study Final Report* (Maunsell, 2004) was appended to the EA (refer **Appendix C** of the EA) and concluded that the current site was the most suitable of the sites considered with respect to the identified criteria.

S006_1

The propsal for the dump site fails to address the inability to contain surface water at the proposed site and the potential environmental and human impact down stream. There is a potential of the proposed dump jeopardizing several major Department of Environmental & Climate Change NSW Recovery Plans for key populations of S006_2
threatened species such as the Brush-tailed Rock Wallaby, spooter Qual and the highly endangered Hastings River mouse under the Threatened Species Convention Act, 1995. In the Oxley Wild Rivers region there are 350 native species recorded including 55 native mammals of which almost half (25 mammals) are classified a either rare, threatened or endangered.

Oxley Wild Rivers National Park is a major refuge for the brush-tailed rock-wallaby (Petrogale pencillata), with the largest confirmed population anywhere, estimated at 10,000 animals. One major colony is located on the boarder of the Blue Hole and at the mouth of the Gara Gorge system. The BBC did a Life documentary on this colony back in 2007 (http://www.bbc.co.uk/expeditions/australia) this is yet to air in Australia however, the ABC has bought the rights.

Should there ever be a known environmental impact from the proposed dump, the country down stream is so S006_3
remote and unaccessible that a potential problem could never be contained or dealt with and this fact means that it would have implications forever.

The fact that a councillor and his businees partner (a local agent) proposed to sell the land to council at S006_4
approximately 8 times the market value should be grounds enough to have this proposal thoroughly publicly audited.

Name: [redacted]
Organisation: [redacted]

Address:
[redacted]

IP Address: [redacted]

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Site: #74 Armidale-Dumaresq Waste Facility
https://majorprojects.onhiive.com/index.pl?action=view_site&id=74

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Submission S006

Issue Number	Topic	Response
S006_1	W4	The mitigation measures described in the EA would be sufficient to contain all dirty water runoff and leachate within the appropriate storage dams. It is not anticipated that leachate contamination of downstream surface water would occur. Stringent environmental controls to manage dirty stormwater runoff, leachate containment and emergency storage would be implemented and would reduce the potential for significant impacts to surface water down stream. The Water and Leachate Management Plan details all aspects of the design and operation of the Leachate Pond, Sedimentation Basin and Dry Basin. The Surface and Groundwater Monitoring Program and Management Plan (appended to the LEMP) details procedural responses to exceedances of monitoring trigger levels.
S006_2	FF2	Potential impacts to threatened species in the area were addressed in the Flora and Fauna Assessment (**Appendix E** of the EA). Assessments of Significance were undertaken for a number of threatened species that were either recorded in the study area or were considered to have habitat in the study area. Known and potential habitat will be removed or modified as part of the proposed project. The impacts of this will be minimised through implementation of the mitigation measures outlined in **Section 4** of the Flora and Fauna Assessment (**Appendix E** of the EA). This includes clearing in stages and rehabilitation and provision of compensatory habitat. The potential for indirect impacts to threatened species that inhabit the Oxley Wild Rivers National Park and its surrounds have been addressed in the Hydrogeological (Leachate) Assessment (**Appendix I** of the EA) and the Flora and Fauna Assessment (**Appendix E** of the EA). Direct impacts to native species that occur in the study area and indirect impacts to species that occur offsite will also be managed through implementation of a suite of management plans. Further details of the contents of these plans are provided in **Section 4** of the Flora and Fauna Assessment (**Appendix E** of the EA). These plans will be developed during detailed design of the landfill and prior to construction. The plans would be prepared in consultation with relevant government agencies (e.g. DECCW and DSEWPC) and in accordance with best practice guidelines.
S006_3	LU1	Should it be determined that the landfill is the cause of groundwater degradation, Council would evaluate measures to remediate groundwater as part of a groundwater contingency plan which would be prepared in consultation with DECCW.
S006_4	E3	Price negotiations for the purchase of the land for the proposed landfill have not yet commenced. Land acquisition will be undertaken only once Major Project approval has been granted by the Minister for Planning.

Felicity,
Since the application by Armidale City Council for the Waste Facility, the Hillgrove mine has closed down which is located basically in the same location proposed by the Armidale City council. S007a_1

Should this option not be considered as an alternative.

The old mine would have substantial infrastructure to allow for a waste facilities with all appropriate retention and holding dams, roads and sheds etc..

This would also then allow for the old mining site to be environmentally managed at the same time, resulting in an environmental solution for both parties. I would suggest the owners of the mine would financially be interested as well.

In the public interest, economically and more importantly environmentally, should this not be considered.

If the process has moved beyond being able to consider alternatives, then bureaucracy has won again.

Regards
[redacted]

Knowing the area very well, having camped in that vacinity as a kid, I can not believe that the government would support this application. If the requirements are for a dump then why is it not placed in a more appropriate area, on the western side of the range would be logical. Or discuss with the local Hillgrove mine who has destroyed an area that would be suitable. The location smells of corruption within the local council. Totally discusting. S007b_2

Name [redacted]
Organisation: Private

Address:
[redacted]

IP Address [redacted]

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Site: #74 Armidale-Dumaresq Waste Facility
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Submission S007

Issue Number	Topic	Response
S007a_1	P3	The Hillgrove mine site has the potential for existing contamination due to a recent breach of the site's EPL which resulted in pollution of waters to the environment. The Hillgrove Mine reported a spill of up to 3000 litres of 'slimes' containing antimony, arsenic and lead which is toxic to some aquatic life. The site is therefore not a suitable alternative given the inability to distinguish potential contamination in the future.
S007b_1	P3	As part of the site selection process, several alternative sites were considered for the proposed landfill facility including sites within several of the surrounding LGA's. Over 50 sites have been evaluated through the site selection process since the mid-1990s. The *Regional Landfill Siting Study Final Report* (Maunsell, 2004) was appended to the EA (refer **Appendix C** of the EA) and concluded that the current site was the most suitable of the sites considered with respect to the identified criteria.
S007b_2	E3	The site selection process evaluated over 50 sites including sites in surrounding LGAs, of which a number were located in inland (west)-draining catchments. These sites were eliminated due to a number of unsatisfactory criteria ratings such as underlying geology, hydrogeology, access and distance of travel.

My main concern is that little consideration has been given to the proximity of the landfill site to the Oxley Wild Rivers NP - one of the Gonwanan Rainforests of Australia World Heritage areas. Landfills are notorious for their inability to contain contaminents on site. As a result surface and ground water quality would be compromised. This in turn would affect biodiversity down stream, particualy the micro flora (such as algae) and invetebrate fauna near the base of the foodchain and hence have the potential to damage the entire freshwater ecosystem. S008_1 S008_2

The landfill would appear to be visible from the Grafton Road, a major entre point to the city of Armidale and the New England Tablelands. The site would add considerably to the traffic flows on an already heavily used route (Armidale residents' main route to the coast). S008_3 S008_4

If the proposal were to succeed can Armidale -Dumaresq Council guarentee that it will monitor the site for decades and even centuries after it was full and closed? Is there a clear life span for the proposed site? Could council be trusted not to exceed this life span, pushing the site beyond its capacity? S008_5 S008_6

I believe the proposed landfill is inappropriate in this day and age. Council should consider other alternatives to disposing of waste to landfill and should explore other avenues that are more environmentally sustainable. S008_7

Name: [redacted]
Organisation: Citizen rate payer

Address:
Mimosa
[redacted]

IP Address: [redacted]

Submission for Job: #81 Armidale Landfill Project
https://majorprojects.onhiive.com/index.pl?action=view_job&id=81

Site: #74 Armidale-Dumaresq Waste Facility
https://majorprojects.onhiive.com/index.pl?action=view_site&id=74

Felicity Greenway

E: Felicity.Greenway@planning.nsw.gov.au

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Submission S008

Issue Number	Topic	Response
S008_1	W1 W2 W3 W4	The Water and Leachate Management Plan details all aspects of the design and operation of the Leachate Pond, Sedimentation Basin and Dry Basin which would contain all dirty water on site. Dirty water may be disposed of at the STP during emergency events such as following significantly high rainfall. The Surface and Groundwater Monitoring Program and Management Plan (appended to the LEMP) details procedures for the management of groundwater as well as emergency response procedures should exceedances be detected. Specialist studies indicate that the travel distance of approximately one (1) km from the site to the Gara River would be substantially longer once the tortuous nature of the actual flow paths through the fractured rock is taken into account. Considering the low permeability (4.8×10^{-9} m/s) of the rock observed in bore hole No. BH4 and the expected capacity of the clays and silts to naturally attenuate any fugitive contaminants, any significant impacts to potential receptors would be extremely unlikely.
S008_2	FF1	An assessment of biodiversity including potential impacts of the proposed landfill facility on flora, fauna and habitat was presented in **Appendix E** of the EA and summarised in **Section 8.8** of the EA. Further, the Surface and Groundwater Monitoring Program and Management Plan (appended to the LEMP in **Appendix B**) is designed specifically to detect and manage the quality of surface water and groundwater. In the unexpected event that leachate enters the groundwater, diluted concentrations reaching the downstream Gara River would not pollute the existing environment or have a significant impact on flora and fauna downstream (refer to the Hydrogeological [Leachate] Assessment, **Appendix I** of the EA). Direct impacts to native species that occur in the study area and indirect impacts to species that occur offsite will be managed through implementation of the Management Plans for the site, including the Water and Leachate Management Plan and Surface and Groundwater Monitoring Program and Management Plan.
S008_3	V1	Visual montages of the various viewpoints were considered as part of the EA. All existing trees and known tree heights were included in the visual montages in addition to the final profile of the proposed landfill mass (refer **Figures 30** to **35** of the EA). It should be noted that these montages did not take into account future screening from the proposed biodiversity offset area. It is noted that views towards the Project Site from Receivers 4 and 5 (and indicatively of the Waterfall Way, also referred to as Grafton Road) are considered to be reasonably significant, however these views would be partially masked by existing vegetation and further masked by vegetation of the offset area once matured.
S008_4	T2	Based on the RTA traffic count data, Waterfall Way has an estimated average annual peak hour flow (two way) of approximately 97 vehicles per hour which indicates that it is currently operating at a LoS A (based on the RTA's *Guide to Traffic Generating Developments*). LoS A indicates that the operation of the road is good, with minor vehicle delays and considerable spare capacity capable of accommodating future growth in traffic. Traffic modelling has been undertaken as part of the EA and has determined that Waterfall Way would continue operating at LoS A, assuming an increase in traffic movements from the proposed landfill facility of 6 movements per day (one way) of which only 4 would be heavy vehicles. Given that the volume of waste to be directed to landfill is expected to decrease over time due to increasing recycling

Armidale Regional Landfill
Environmental Assessment - Submissions Report
AECOM

		rates (refer to **Section 2.4**), traffic movements to the proposed landfill facility will remain stable or may decrease over time and thus potential impacts on traffic generation are considered acceptable.
S008_5	P6	Council would be required to monitor the site until leachate generation ceases and comply with other post-closure conditions as specified by the EPL and/or approval conditions. Council is committed to monitoring and rehabilitating the site and the proposed offset area post-closure for a time yet to be specified in any approvals. A Closure Management Plan and Rehabilitation Plan would be prepared and implemented as part of the LEMP.
S008_6	P4	The proposed landfill facility is expected to operate for approximately 50 years based on estimated waste disposal to the landfill. The life of the landfill may exceed its 50 year lifespan, if disposal rates are less than those used in the estimate. Once the landfill has reached capacity ($1,056,000m^3$) it will be capped and closed in accordance with DECCW requirements.
S008_7	P3	Council has considered the implementation of various alternative waste treatment (AWT) technologies. AWT refers to technologies such as Mechanical Biological Technologies (MBT), thermal treatment or a combination of both MBT and thermal treatment. Council has demonstrated its commitment via its active pursuit of AWT processes over a number of years. Council is currently trialling and evaluating AWT at the Long Swamp Road Waste Transfer Facility before full scale adoption and implementation. Further facilities and processes to recover materials for re-use will be added in future as markets and recovery costs dictate.

My name is [redacted] live in Armidale. I was born here and I have raised my family here. I live at [redacted].

I am writing to strongly object to Proposed Armidale Dumaresq Regional Landfill, 06_0220. The reasons for my objection are below. I am not a person who would normally object to anything but I feel very strongly about this potential disaster.

LANDFILL SITE ISSUES SUMMARY

Flawed Site Selection Process

- No scientific study has been undertaken to determine the optimum site. S009_1
- Only ten sites that were for sale in the mid 1990's were considered. Almost exclusively only sites within the Armidale Dumaresq Council area were considered.
- Site selection parameters are arbitrary, subjective and questionable.

- The real estate agent engaged to identify initial sites has no relevant qualifications.
- The selected site is owned by a sitting Councillor and a local real estate agent engaged to undertake the site selection. S009_2
- Owner of the site gained a position on the Landfill Committee to provide Council with the 'selected site'.

The Selected Site is Unsuitable

- Contrary to Council's claims, the Australian Government is concerned that the World Heritage area will suffer significant long term environmental damage as a result. S009_3
- The site is 3.9km upstream from the World Heritage listed Gondwana Rainforest.
- Even with an artificial liner it is widely agreed that ALL landfills eventually will leak so that dangerous toxins and pollutants will drain into the waterways and groundwater will be polluted. S009_4
- Site only 500m from the Gara River in an area that 'shows previous evidence of flooding'. Licensed water bore 50 metres from proposed dump site. S009_5
- Threatened species and a critically endangered, known koala habitat will be further diminished. 1000's of mature trees and habitat to be cleared and destroyed for the site. S009_6
- There has been no clearance from Traditional Owners. Traditional Owners have not been properly consulted. There have been suggestions that the discovery of artefacts at the site should not be made public. S009_7
- The site is highly visible from, and within 1km of The Waterfall Way, an established tourist route with significant social and scenic amenity. S009_8
- The location will prejudice businesses that are growing on New England's emerging reputation as a premier cool climate wine and food appellation, particularly those that may choose to locate on such a well known tourist route. S009_9

- No detailed engineering plans or site operating plans have been prepared. S009_10
- Because there are no detailed plans capital, operating and closure costs have not been reliably/accurately quantified. S009_11
- The site is environmentally unsuitable, which means that the costs will be higher than a more suitable site selected on scientific grounds.
- There has been no analysis of the cost to emerging wine and food businesses.
- The clean up costs are left to future generations. What will they be?

file://D:\Pub Subs16-08-10\Public Submission 009 FW_ World Heritage area.htm 5/10/2010

Submission S009

Issue Number	Topic	Response
S009_1	P2	As part of the site selection process, over 50 sites were evaluated for the proposed landfill facility. Criteria analysed during the site selection process included: • Strategic planning guidelines; • Statutory planning issues; • Ground and surface water environment; • Local amenity and environmental considerations; • Level of Service; • Adequacy of existing services; • Set-up costs; • Operational costs; • Site features required; and • Social issues. The *Regional Landfill Siting Study Final Report* (Maunsell, 2004) was appended to the EA (refer **Appendix C** of the EA) and concluded that the current site was the most suitable of the sites considered with respect to the identified criteria.
S009_2	E3	Three real estate agents were approached by Armidale Dumaresq Council to search for suitable sites for the landfill. The real estate agents proposed several sites that were considered as part of the site selection process, however other site options were also assessed in addition to those identified by the real estate agents.
S009_3	H1	The impact on the GRAWHA has been assessed under the EPBC Act and a referral lodged with DSEWPC (formerly DEWHA). DSEWPC determined that the proposal constitutes a controlled action under the EPBC Act. The nature of the assessment process under the EPBC Act is such that determinations are made without regard to mitigation measures that would be implemented. However, the measures proposed in the EA will reduce the potential for significant impacts on the environment including the World Heritage Area. Environmental controls to manage dirty stormwater runoff along with leachate containment and emergency storage as part of the proposal would reduce the likelihood of impacts to surface and groundwater. In the unexpected event that leachate enters the groundwater, diluted concentrations reaching downstream would not pollute the existing environment at the OWRNP or have a significant impact on the World Heritage Area.
S009_4	W4	The mitigation measures provided in the EA are considered sufficient to contain all dirty water runoff and leachate within the appropriate storage dam. It is not anticipated that contamination of leachate would occur downstream in harmful quantities. A report has been prepared and appended to the EA (**Appendix I**) detailing the scenario of a leak in the landfill liner leading to contamination of the Gara River. The findings of the report identified that if this event occurred, concentrations of pollutants would be diluted and unlikely to cause a notable impact on the downstream environment. Stringent environmental controls to manage dirty stormwater runoff, as well as leachate containment and emergency storage would be implemented and would reduce the likelihood of impacts to surface and groundwater.

		The Water and Leachate Management Plan details all aspects of the design and operation of the Leachate Pond, Sedimentation Basin and Dry Basin. The Surface and Groundwater Monitoring Program and Management Plan (appended to the LEMP) details procedural responses to exceedances of monitoring trigger levels.
S009_5	W1 W2	The proposed landfill site is located within the upper reaches of the catchment and runoff from the site falls to the north towards an ephemeral creek which flows east into Gara River. A flood assessment was conducted along this creek, opposite the site, in accordance the Australian Rainfall and Runoff guidelines, which are used for the analysis and prediction of flood events in Australia for design purposes. Flooding will occur along the existing ephemeral creek during high rainfall events. The extent of the flooding will encroach the north-eastern boundary of the site (adjacent to the line of the creek) as per existing (natural) conditions however the leachate pond, sedimentation pond, dry basin and the landfill itself are all located outside the extent of the predicted 1in 100 year floodplain. The location of the groundwater bore in close proximity to the proposed landfill has been considered in **Section 8.4** of the EA. Groundwater investigations concluded that the direction of groundwater flow from the site is north-easterly, i.e. away from the borehole located on Strathaven to the west of the site.
S009_6	FF5 FF2	An assessment of biodiversity including potential impacts associated with vegetation clearing and impacts to threatened flora and fauna was presented in **Appendix E** of the EA and summarised in **Section 8.8** of the EA. The proposal will not result in the clearing of '*1000's of mature trees*' as suggested in the submission. The proposed works involve clearing of less than 1 ha of Box Gum Woodland, 12.7 ha of the regrowth Stringybark Woodland and approximately 3.3 ha of ground cover. This clearing will result in a reduction in the area of woodland and grassland habitat and also the loss of hollow bearing trees in the Box Gum Woodland. The impacts of this will be minimised through implementation of the Compensatory Habitat Offset Plan, the Vegetation Clearing Protocol and Native Fauna Management Plan. The measures to be included in these plans are provided in **Section 4** of the Flora and Fauna Assessment (**Appendix E** of the EA). They include clearing in stages, rehabilitation, provision of compensatory habitat, collection of locally sourced seeds for direct seeding and / or propagation, maintaining a buffer of at least 30 m around threatened eucalypts, avoiding habitat trees and locating the access road in a largely cleared area.
S009_7	C3	Aboriginal consultation was carried out as documented in **Section 7** and **8.11** of the EA. Aboriginal consultation since 2006 has occurred as follows: • The Anaiwan community represented the local Aboriginal community due to the closure of the Armidale Local Aboriginal Land Council for several months prior to and during the time of the 2006 investigations. • Advertisements were placed in the local print media inviting all Aboriginal stakeholders with a potential interest in the project to register their interest within 14 days of publication of the advertisement (The Armidale Express on 2 February 2009 and The Armidale Independent on 4 February 2009). Two responses were received; Nyakka Aboriginal Culture Heritage Corporation Archaeological & Cultural Heritage Consultants (formerly known as Anaiwan Aboriginal Traditional Owners) and another individual respondent. • A representative on the Board of the reappointed Armidale LALC was contacted in February 2010 and informed of the proposal, consultation and site investigations that have taken place. The findings of the Aboriginal heritage study are summarised in **Section 8.11** of the EA with the full report in **Appendix R** of the EA.

S009_8	V1	Visual montages of the various viewpoints were considered as part of the EA. All existing trees and known tree heights were included in the visual montages in addition to the final profile of the proposed landfill mass (refer **Figures 30** to **35** of the EA). It should be noted that these montages did not take into account future screening from the proposed biodiversity offset area. It is noted that views towards the Project Site from Receivers 4 and 5 (and indicatively of the Waterfall Way) are considered to be reasonably significant, however these views would be partially masked by existing vegetation and further obscured by vegetation once the offset area is matured.
S009_9	SE1 SE3	The existing landfill on Long Swamp Road has been in operation since the 1960s and has not impeded development in the surrounding area. This demonstrates, in addition to several other industrial uses in Armidale that mixed land uses can coexist without prejudicing other businesses. The proposed landfill facility would not sterilise the surrounding area for other land uses nor would it restrict the development of other agricultural industries or businesses in the vicinity. Further, the proposed management measures are designed to ensure all contaminants are contained on site.
S009_10	P4	Detailed engineering and site operation plans would be prepared during the detailed design stage. As part of the approvals process, the relevant agencies will prescribe approval conditions the proposed landfill facility will be required to meet. These conditions would be incorporated into the detailed design plans and presented to the relevant agencies such as DECCW prior to construction.
S009_11	SE4	The proposed landfill has been designed in accordance with the recommended DECCW Landfill Guidelines Benchmark Techniques. The costs for implementing the safeguards and controls at the site have been incorporated into the cost estimates for the project and significant additional remediation costs are not likely to be incurred as the management measures to be incorporated into the site, such as a surface water management system, leachate containment and storage system, will reduce the likelihood of off-site environmental and social issues. The proposal is unlikely to have significant impacts on businesses in the region. Consideration of the principles of Ecologically Sustainable Development (ESD), including Intergenerational Equity, is outlined in **Section 11.2** of the EA. The proposed landfill facility is part of Council's long term waste management strategy and has been planned to provide a service for the disposal of community waste for a period of 50 years or more. The landfill has been designed in accordance with the NSW EPAs Environmental Guidelines: Solid Waste Landfills and the detailed design will be aimed at achieving the most environmentally beneficial outcome for the effective treatment and disposal of waste so that the landfill operates effectively into the future and does not give rise to any long term environmental effects.

[redacted] T S

[redacted]

21 July 2010
Ref: 341206_1

NSW Department of Planning
GPO Box 39
SYDNEY NSW 2001

Dear Sir/Madam,

Re: Submission opposing the location of the new Armidale Tip.

I am shocked that Council has elected to build the new tip East of Armidale when the Waterfall Way and surrounding wilderness area is being heavily promoted to capitalise on the tourist dollar. S010_1

Being a regular commuter on the Waterfall Way to Coffs Harbour, I am dismayed that anyone would consider placing a tip on this scenic stretch of road. I am yet to see a visually pleasing tip or quarry. S010_2

It has recently been pointed out to me the location of the proposed tip whilst travelling on the Waterfall Way. I had no idea that Armidale even needed a new tip and am quite concerned at the location just up from the Gara River and opposite an environmental reserve. S010_3 S010_4

I have been told that a Councillor asked for Council to buy his land for the tip! If this is the case it is a disgraceful situation and I now understand why an administrator is being appointed to run the new Council. S010_5

I have had the displeasure of visiting Armidale's current tip site and it is a mess. Plastic bags blowing around and stuck in neighbouring properties trees, dump smells and flys. Ruining another area especially one in a location where we are trying to promote tourism seems incongruous. S010_2

The ratepayers of Armidale always seem to be picking up the bill for Council environmental failures and I fear this will happen again if the Waterfall Way proposal is approved for the new tip.

Yours faithfully

[redacted]

Submission S010

Issue Number	Topic	Response
S010_1	SE3	It is envisaged that views of the proposed landfill facility from Waterfall Way would be partially masked by existing vegetation and further obscured by vegetation of the offset area once matured. The proposed landfill facility would not significantly affect or impede tourism in the area. Armidale Dumaresq Council supports the promotion of tourism in the region through the Tourism Information Centre, provision of funding for local community infrastructure including public facilities for tourists and sponsorship of events to promote tourism in the region. The number of passengers passing through Armidale Airport in the 2007-2008 financial year was 12.3% higher than in the previous year (ADCC, 2008). This trend and the trend of historical growth in tourism within the region (despite the commissioning of the existing landfill), suggest that the proposed landfill facility is unlikely to negatively impact tourism and marketing of tourism in the area.
S010_2	V2	Visual montages of the various viewpoints were considered as part of the EA. All existing trees and known tree heights were included in the visual montages in addition to the final profile of the proposed landfill mass (refer **Figures 30** to **35** of the EA). It should be noted that these montages did not take into account future screening from the proposed biodiversity offset area. Views of the proposed landfill from the Waterfall Way would be partially masked by existing vegetation and topography and would be intermittently viewed from moving vehicles and further would be obscured by vegetation contained within the offset area, once matured. Buildings at the proposed landfill facility would utilise colours consistent with the surrounding landscape to reduce visual impacts.
S010_3	P1	The need and strategic justification for the proposal is presented in **Section 2** of the EA. The existing Armidale Waste Management Centre landfill, currently used by both Armidale Dumaresq and Guyra Shire Councils, is almost at full capacity with only limited and unapproved possibilities for further expansion. In addition, other landfills in the region, used by Walcha and Uralla Shire Councils, will progressively reach their final capacities within 15 years and can not accommodate the ongoing landfill needs of Armidale Dumaresq and Guyra Shire Councils. Therefore, Armidale Dumaresq Council proposes to develop a new regional landfill which would service the waste management needs of several local government areas within the region, as opposed to multiple, smaller scale landfills for each individual council area. The development of a regional landfill is considered to be the most efficient waste disposal solution for this region.
S010_4	P2	As part of the site selection process, several alternative sites were considered for the proposed landfill facility. The principles outlined in the document *Landfilling – EIS Guidelines* (DUAP, September 1996) were used to develop appropriate criteria and weightings for the assessment of the potential landfill sites identified from the preliminary investigations. This considered heritage and ecological constraints. The outcome of the weighting and assessment identified that the current location was most suitable. It is considered that environmental impacts to the Gara River and surrounding area can be adequately managed with the mitigation measures identified in the EA.
S010_5	E3	The Project Site is proposed to incorporate portions of the Sherraloy and Edington properties (refer to **Figure 4** of the EA), which would be subdivided. Appropriate portions, totalling 86 hectares, would be formally acquired by Council to facilitate the proposed landfill facility. The Edington property is currently owned by a former Councillor. The Sherraloy property is currently owned by one of the real estate agents engaged by Council to identify suitable land for sale.
S010_6	SE3 V3	Visual montages of the various viewpoints were considered as part of the EA. All existing trees and known tree heights were included in the visual montages in addition to the final profile of the proposed landfill mass (refer **Figures 30** to **35** of the EA). It is envisaged that views of the proposed landfill facility from Waterfall Way would be partially masked by existing vegetation and further obscured by vegetation of the offset area once matured. The proposed landfill facility would not significantly affect or impede tourism in the area. Armidale Dumaresq Council supports the promotion of tourism in the region through the Tourism Information Centre, provision of funding for local community infrastructure including public facilities for tourists and sponsorship of events to promote tourism in the region.

Armidale Regional Landfill
Environmental Assessment - Submissions Report

AECOM

Proposed Armidale Dumaresq Regional Landfill, 06_0220.

I would like to voice my opposition to the planned landfill site, next to the Gara river and upstream from the Oxley Wild Rivers National Park. (world heritage area) S011_1

Quite simply it is an idiotic plan which threatens a most beautiful area. S011_2

I cannot believe I even have to voice this opinion given that any right thinking individual would immediately see what a ridiculous idea this is.

Do NOT let this project go ahead!

Sincerely,
[redacted]

Name: [redacted]

Address:
[redacted]

IP Address: [redacted]

Submission for Job: #81 Armidale Landfill Project
https://majorprojects.onhlive.com/index.pl?action=view_job&id=81

Site: #74 Armidale-Dumaresq Waste Facility
https://majorprojects.onhlive.com/index.pl?action=view_site&id=74

Felicity Greenway

E: Felicity.Greenway@planning.nsw.gov.au

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Submission S011

Issue Number	Topic	Response
S011_1	H1	Community concerns have been noted regarding the site location in the catchment of the Gara River upstream of the OWRNP. **Section 8.12** of the EA addresses National Environmental Heritage (OWRNP) which supports the GRAWHA. The impact on the GRAWHA has been assessed under the EPBC Act and a referral lodged with DSEWPC (formerly DEWHA). DSEWPC determined that the proposal constitutes a controlled action under the EPBC Act. The nature of the assessment process under the EPBC Act is such that determinations are made without having regard to mitigation measures that would be implemented. However, the measures proposed in the EA will reduce the likelihood of significant impacts on the environment including the World Heritage Area. Stringent environmental controls to manage dirty stormwater runoff, leachate containment and emergency storage would be implemented and would reduce the likelihood of impacts to surface and groundwater. In the unexpected event that leachate enters the groundwater, diluted concentrations reaching downstream would not pollute the existing environment at the OWRNP or have a significant impact on the World Heritage Area.
S011_2	V2	Visual montages of the various viewpoints were considered as part of the EA. All existing trees and known tree heights were included in the montages in addition to the final profile of the proposed landfill mass (refer **Figures 30** to **35** of the EA). It should be noted that these montages did not take into account future screening from the proposed biodiversity offset area. Moving vehicles would have intermittent views of the proposed landfill from the Waterfall Way. Views would be partially masked by existing vegetation and topography and would be further obscured by vegetation contained within the offset area, once matured.

[redacted]

Re: Proposed Armidale Dumaresq Regional Landfill, 06_0220

Objection to poposed Landfill: I am a resident of Armidale, New England Tableland and would like to let you know that I strongly object to the proposed landfill site on the Waterfall Way near Armidale.

Firstly, I oppose the proposed location on the Waterfall Way for environmental reasons, i.e. the danger through leakage into the Gara River. The AECOM Environment Assessment (Vol.1-4) indicates that leachate infiltration cannot be excluded and thus will – over time - pollute the Oxley Wild Rivers National Park, which is part of the World Heritage Gondwana Rainforests of Australia. Australia is a signatory to the UNESCO World Heritage Convention, and as such has a regulatory obligation to protect the environment of its World Heritage properties. S012_1

Secondly, I oppose the location of the site because it is only accessible by the Waterfall Way, one of the truly beautiful roads linking the Tableland with the Coast. There are many tourist brochures and websites which claim that The Waterfall Way is one of the most scenic tourist drives in Australia. I am quoting from just three relevant websites: S012_2

Tourism NSW, on their website, enthuses:

> **The 191 kilometre Waterfall Way is one of the world's most scenic drives.** The road winds upwards from the Pacific Highway near Coffs Harbour to Armidale on the New England Tablelands. This breathtaking journey is the perfect way to experience the diversity of the changing landscape of the Great Dividing Range from the pristine coastal beaches climbing through lush tropical rainforest to the wide open plains of New England. **http://www.visitnsw.com/town/Dorrigo/Waterfall_Way/info.aspx** (accessed 19/7/2010)

The Australian Traveler Website is equally pointing out the unrivaled beauty of the Waterfall Way:

> **The Waterfall Way, No.3 of the Great Drives of Australia**. A classic touring drive from Coffs Harbour on the mid-north NSW coast through the lush rainforest of the Great Divide to the New England Tablelands to finish in Armidale, this is one trip where the road itself is the destination. And not only do you get amazing wilderness, deep gorges and bucolic countryside, you also get the road to yourself http://www.australiantraveller.com/component/content/article/3356 (accessed 19/7/2010)

The NRMA, in their Open Road Magazine

> **NSW's Waterfall Way, in the Northern Tablelands, captures the diversity of our landscape, from lush tropical rainforest to subalpine heath and wetlands.** And, of course, plenty of waterfalls. Using NRMA's Travel Planner, Rachel Eldred discovers a water wonderland. [...] **http://www.openroad.com.au/waterfall_way.asp** (accessed 19/7/2010)

My second point of objection is therefore that the planned landfill site would cause enormous traffic by garbage trucks from Armidale, Guyra, Uralla and Walcha. The Waterfall Way could no longer be described as "one of the world's most scenic drives" or "No.3 of the Great Drives of Australia" but would rather become a country road clogged with garbage trucks. This would damage the reputation of this wonderful scenic drive and would have a detrimental impact on tourists driving to Armidale and its surroundings. It goes without saying that the **sight** of a landfill of the proposed magnitude would be detrimental to the beauty of the adjacent wilderness. S012_3 S012_2 S012_4

Yours faithfully,

[redacted]

Submission S012

Issue Number	Topic	Response
S012_1	W4 H1	Community concerns have been noted regarding potential for pollution of the Gara River through leachate migration from the landfill and these issues are addressed in **Sections 8.3** and **8.4** of the EA. **Section 8.12** of the EA addresses National Environmental Heritage (OWRNP) which supports the GRAWHA. The impact on the GRAWHA has been assessed under the EPBC Act 1999 and a referral lodged with DSEWPC (formerly DEWHA). DSEWPC determined that the proposal constitutes a controlled action under the EPBC Act. The nature of the assessment process under the EPBC Act is such that determinations are made without having regard to mitigation measures that would be implemented. However, the measures proposed in the EA will reduce the likelihood of significant impacts on the environment including the World Heritage Area. Stringent environmental controls to manage dirty stormwater runoff, leachate containment and emergency storage would be implemented and would reduce the likelihood of impacts to surface and groundwater. In the unexpected event that leachate enters the groundwater, diluted concentrations reaching downstream would not pollute the existing environment at the OWRNP or have a significant impact on the World Heritage Area.
S012_2	SE3	The proposed landfill facility would utilise the Waterfall Way as an access route. It is noted that the Waterfall Way is a national tourist drive and this is acknowledged in the EA. It is also noted that the Waterfall Way is an existing haulage route for several existing facilities in the region. The traffic modelling in the EA has considered a worst-case scenario where up to 6 traffic movements would occur per day (one way). It is expected traffic movements would remain stable or would decline over time as recycling rates increase. The tourist value of the Waterfall Way is not expected to be impacted by the proposal.
S012_3	T2	Based on the RTA traffic count data, Waterfall Way has an estimated average annual peak hour flow (two way) of approximately 97 vehicles per hour which indicates that it is currently operating at a LoS A (based on the RTA's *Guide to Traffic Generating Developments*). LoS A indicates that the operation of the road is good, with minor vehicle delays and considerable spare capacity capable of accommodating future growth in traffic. Traffic modelling has been undertaken as part of the EA and has determined that Waterfall Way would continue operating at LoS A, assuming an increase in traffic movements from the proposed landfill facility of 6 movements per day (one way), of which only 4 would be heavy vehicles. Given that the amount of waste volumes to be directed to landfill is expected to decrease over time due to increasing recycling rates (refer to **Section 2.4**), traffic movements to the proposed landfill facility will remain stable or may decrease over time and thus potential impacts on traffic generation are considered acceptable.
S012_4	V2	Visual montages of the various viewpoints were considered as part of the EA. All existing trees and known tree heights were included in the montages in addition to the final profile of the proposed landfill mass (refer **Figures 30** to **35** of the EA). It should be noted that these montages did not take into account future screening from the proposed biodiversity offset area. Moving vehicles would have intermittent views of the proposed landfill from the Waterfall Way. Views would be partially masked by existing vegetation and topography and would be further obscured by vegetation contained within the offset area, once matured.

[redacted]

Major Development Assessment
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Email: Felicity.Greenway@planning.nsw.gov.au

Project Name and Application Number:

Proposed Armidale Dumaresq Regional Landfill, 06_0220

Dear Felicity,

I wish to strongly register my **objection** to the Proposed Armidale Dumaresq Regional Landfill, which would be 10 kms east of Armidale off the Waterfall Way and would be in plain view to all travelling on the Waterfall Way, gateway to the Coast and renowned National Parks. S013_1

The main reason I strongly object to the Proposal is that the initial site selection process for the proposed landfill was not approached independently and with regards to the best interests of the environment, flora and fauna and suitability of land type. Basically from the initial stages of the site selection criteria the fundamentals have been flawed. Because of this initial lack of independence of site selection the Council is and has been trying to make an unsuitable site fit all the guidelines required to fulfil the requirements of a Class 1 Dump. S013_2

If the Council had been serious about looking for "the best" suitable landfill site they would have also looked at sites on the Western Falls where there is potentially less impact to World Heritage National Parks. I am also disappointed that the Waterfall Way site is being sold by a councillor who was sitting on the Council when the original decision to select the site was made and that Council had not disclosed how much will be paid for the site. I also understand that the other site vendor was the Real Estate agent who was asked to identify sites initially. S013_2 S013_3

Apart from the lack of site selection process, I can't believe that the Council could recommend the site as suitable for the Proposed Landfill site; it is so close to the Gara River which flows into the Gondwana Rainforests of Australia World Heritage Area. The leachates that are produced in landfills are toxic and even though there are "wonderful new, heavy duty" liners in place to prevent leakage from landfills, sooner or later toxins do escape into the groundwater and river systems. Surely it would be environmental suicide to endorse a landfill site that would impact on World Heritage values and basic water qualities that we so fortunately take for granted? S013_4

There are also many other negative economic and social issues that result from the impacts of a landfill of this Class 1 type at Waterfall Way. It is very disappointing that the Council is not looking to the future and thinking of using Alternative Waste Technologies to minimise costs and the environmental and social impact. S013_5

Yours sincerely,

[redacted]

26 July 2010

Submission S013

Issue Number	Topic	Response
S013_1	V1	Visual montages of the various viewpoints were considered as part of the EA. All existing trees and known tree heights were included in the visual montages in addition to the final profile of the proposed landfill mass (refer **Figures 30** to **35** of the EA). It should be noted that these montages did not take into account future screening from the proposed biodiversity offset area. It is noted that views towards the Project Site from Receivers 4 and 5 (and indicatively of the Waterfall Way) are considered to be reasonably significant, however these views would be partially masked by existing vegetation and further obscured by vegetation of the offset area once matured.
S013_2	P2	As part of the site selection process, several alternative sites were considered for the proposed landfill facility including sites within several of the surrounding LGA's. Over 50 sites were evaluated in the site selection process. The site selection process included consideration of environmental impacts and their likely magnitude at each site. The *Regional Landfill Siting Study Final Report* (Maunsell, 2004) was appended to the EA (refer **Appendix C** of the EA) and concluded that the current site was the most suitable of the sites considered with respect to the identified criteria.
S013_3	E3	Council engaged three real estate agents to search for suitable land on the market, which was part of the site selection criteria. The real estate agents proposed several sites that were considered as part of the site selection process, however other site options were also assessed in addition to those identified by the real estate agents. Land on which the proposed landfill will be sited is currently owned by a former Councillor and one of the real estate agents commissioned by Council during the site selection process. The site selection process included consideration of environmental impacts and their likely magnitude at each site. The *Regional Landfill Siting Study Final Report* (Maunsell, 2004) was appended to the EA (refer **Appendix C** of the EA) and concluded that the current site was the most suitable of the sites considered with respect to the identified criteria.
S013_4	W4 H1	Community concerns have been noted regarding potential for pollution of the Gara River through leachate migration from the landfill and these issues are addressed in **Sections 8.3** and **8.4** of the EA. **Section 8.12** of the EA addresses National Environmental Heritage (OWRNP) which supports the GRAWHA. The impact on the GRAWHA has been assessed under the EPBC Act 1999 and a referral lodged with DSEWPC (formerly DEWHA). DSEWPC determined that the proposal constitutes a controlled action under the EPBC Act. The nature of the assessment process under the EPBC Act is such that determinations are made without having regard to mitigation measures that would be implemented. However, the measures proposed in the EA will reduce the likelihood of significant impacts on the environment including the World Heritage Area. The landfill and pond design, including the landfill liner, have been designed in accordance with the recommended DECCW Landfill Guidelines Benchmark Techniques. The combination of composite landfill liner with a leachate collection system ensures maximum prevention of leachate leakage from the landfill into the surrounding environment. A review of available literature on the efficiency of different landfill linings was undertaken (refer **Appendix I**). Although the Leachate Collection and Conveyance Systems have a finite life ranging from under 70 years to over 200 years, the system will have a higher operational life provided that it is installed in accordance with the construction specifications including the CQA/CQC programmes and protection of the liners during and after construction. The LEMP will dictate efficient operation and management of the landfill to ensure landfill structures are used appropriately and the risk of leachate leakage from the

Armidale Regional Landfill
Environmental Assessment - Submissions Report
AECOM

		landfill site is minimised. Stringent environmental controls to manage dirty stormwater runoff, leachate containment and emergency storage would be implemented and would reduce the likelihood of impacts to surface and groundwater. In the unexpected event that leachate enters the groundwater, diluted concentrations reaching downstream would not pollute the existing environment at the OWRNP or have a significant impact on the World Heritage Area.
S013_5	SE1 P3	An analysis of the socio-economic impact of the proposed landfill facility was undertaken and described in **Section 8.9** of the EA. Management measures have been provided throughout the EA relating to visual (including amenity issues), transport and traffic, air quality, noise, surface water, groundwater, flora, fauna, heritage issues and land use issues where they may have socio-economic impacts. Council has considered the implementation of various AWT technologies. AWT refers to technologies such as MBT, thermal treatment or a combination of both MBT and thermal treatment. Council has demonstrated its commitment via its active pursuit of AWT processes over a number of years. Council is currently trialling and evaluating AWT at the Long Swamp Road Waste Transfer Facility before full scale adoption and implementation. Further facilities and processes to recover materials for re-use will be added in future as markets and recovery costs dictate. It is recognised that an AWT facility is not a substitute for landfill. It is envisaged that the AWT would further contribute to Council's waste diversion from landfill and therefore minimise any future waste levy charges.

Project: Proposed ADC Regional Landfill No: 06_0220
In agreeance with the GVEPA I strongly oppose the ADC's proposed regional landfil off the Waterfall Way and in close proxility to town. S014_1
My primary objection to the proposed site is the negative environmental impact to the immediate surrounding areas, but more importantly the Gara River and the World Heritage listed Gondwana Rainforests of Australia.The EPBC in 2007 stated concerns that the proposed landfil "will, or is likely to have a significant impact upon World Heritage Values". Yet Council fails to recognise the disasterous environmental outcomes that could occur if they proceed. I thought that a World Heritage listing protected our wonderful natural resources, why is it different in this case? S014_2
Amongst many other objections, the position of the dump ensures visibility from one of the most popular tourist drives to and from Armidale. The Waterfall Way (as the name suggests)consists of many eco tourism sites, as well as joining Armidale to the Coffs Coast. To desroy this magnificent area, rich with Australian National Parks seems unthinkable and very obviously the worst of ideas to most, except the ADC. S014_3
Surely there is a more suitable, less obvious and environmentally sound option for this proposed landfill. S014_4
Please keep my name confidential.
[redacted]

Name: [redacted]

Address:
[redacted]
Armidale NSW

[redacted]

Submission for Job: #81 Armidale Landfill Project
https://majorprojects.onhiive.com/index.pl?action=view_job&id=81

Site: #74 Armidale-Dumaresq Waste Facility
https://majorprojects.onhiive.com/index.pl?action=view_site&id=74

Felicity Greenway

E: Felicity.Greenway@planning.nsw.gov.au

Submission S014

Issue Number	Topic	Response
S014_1	H1	Community concerns have been noted regarding the site location in the catchment of the Gara River upstream of the Oxley Wild Rivers National Park. **Section 8.12** of the EA addresses National Environmental Heritage (OWRNP) which supports the GRAWHA. The impact on the GRAWHA has been assessed under the EPBC Act 1999 and a referral lodged with DSEWPC (formerly DEWHA). DSEWPC determined that the proposal constitutes a controlled action under the EPBC Act. The nature of the assessment process under the EPBC Act is such that determinations are made without having regard to mitigation measures that would be implemented. However, the measures proposed in the EA will reduce the likelihood of significant impacts on the environment including the World Heritage Area. Stringent environmental controls to manage dirty stormwater runoff, leachate containment and emergency storage would be implemented and would reduce the likelihood of impacts to surface and groundwater. In the unexpected event that leachate enters the groundwater, diluted concentrations reaching downstream would not pollute the existing environment at the OWRNP or have a significant impact on the World Heritage Area.
S014_2	V1	Visual montages of the various viewpoints were considered as part of the EA. All existing trees and known tree heights were included in the visual montages in addition to the final profile of the proposed landfill mass (refer **Figures 30** to **35** of the EA). It should be noted that these visualisations did not take into account future screening from the proposed biodiversity offset area. It is noted that views towards the Project Site from Receivers 4 and 5 (and indicatively Waterfall Way) are considered to be reasonably significant, however these views would be partially masked by existing vegetation and further obscured by vegetation of the offset area once matured.
S014_3	SE3	It is noted that the Waterfall Way is a national tourist drive and this is acknowledged in the EA. It is also noted that the Waterfall Way is an existing haulage route for several existing facilities in the region. The traffic modelling in the EA has considered a worst-case scenario where up to 6 traffic movements would be generated per day (one way). It is expected that traffic movements would remain stable or would decline over time as recycling rates increase and impacts to the tourist value of the Waterfall Way are not expected to be significant.
S014_4	P3	As part of the site selection process, several alternative sites were considered for the proposed landfill facility including sites within several of the surrounding LGA's. Over 50 sites were evaluated in the site selection process. The site selection process included consideration of environmental impacts and their likely magnitude at each site. The *Regional Landfill Siting Study Final Report* (Maunsell, 2004) was appended to the EA (refer **Appendix C** of the EA) and concluded that the current site was the most suitable of the sites considered with respect to the identified criteria.

[redacted]

Major Projects Assessment
NSW State Government

Re: Armidale Landfill Project

Dear Sir/Madam:

I have recently moved to Armidale after spending 30 years working in Asia. The main attraction for me and my family was the natural beauty of this area and the New England region in total.

Since returning to Armidale I have become very involved with the local Chamber of Commerce. We have been working very closely with the UNE on developing a tourism strategy that would benefit both the UNE and local business. The theme of the tourism push was to be Eco Tourism.

The council, as has become the norm here in Armidale, have been very remiss in the distribution of information to the community on the planned new development of the landfill area. Local groups who have opposed this from the start have had no support from local media in attempting to get their message across. The decision to locate the landfill on this side of Armidale nearby one of Australia's most unique and beautiful gorge system beggars belief. Surely the potential for leaching would be reason enough to move this site to a location away from any water system? S015_1 S015_2

I would encourage the Major Projects Assessment team to look closely at the way this proposal has been presented to the local community.

Thank you for your support.

Sincerely,

[redacted]

Submission S015

Issue Number	Topic	Response
S015_1	E2	Throughout the project, Council has undertaken strategic, planned and targeted consultation with the community and stakeholder groups. A summary of community consultation to date is provided in **Section 7.4** of the EA. Consultation was undertaken during initial investigations, site selection and concept design stages and included consultation with: • Landowners in closest proximity to the proposed landfill site; • Residents along the required transport route; • Interested individuals within nearby areas (including Armidale-Dumaresq, Guyra, Uralla and Kempsey LGAs); and • Community and environmental interest groups, non-government organisations and political groups. A range of communication media were used including a community meeting, website updates, newsletters, direct contact where necessary, establishment of a free phone number and public information displays. Issues raised by the community, as well as the relevant section where the issues are addressed in the EA, are presented in **Table 21** of the EA.
S015_2	W4	Community concerns have been noted regarding potential for pollution of the Gara River through leachate migration from the landfill and these issues are addressed in **Sections 8.3** and **8.4** of the EA. Stringent environmental controls to manage dirty stormwater runoff, leachate containment and emergency storage would be implemented and would reduce the likelihood of impacts to surface and groundwater.

Proposed Armidale Dumaresq Regional Landfill, 06_0220

Dear Sir/Madam,

I wish to have my submission recorded as an objection to Armidale Dumaresq Council's Landfill Proposal.
I have based my submission on the findings of the EPBC decision which ruled the 'proposed action will, or is likely to, have a significant impact on the World Heritage values of World Heritage properties and the National Heritage values of National Heritage places.'

Our property borders the Gondwana Rainforests of Australia World Heritage Area which I believe should be preserved for future generations.

I have found that Council have failed to significantly change their proposal or address the shortcomings that were previously highlighted in the below Federal Government ruling. S016_1

I have made additional comments in red

STATEMENT OF REASONS FOR DECISION ON CONTROLLED ACTION UNDER THE *ENVIRONMENT PROTECTION AND BIODIVERSITY ACT 1999*

I, TANIA RISHNIW, Assistant Secretary, Department of the Environment and Water Resources and delegate of the Minister for the purposes of the ***Environment Protection and Biodiversity Conservation Act 1999*** (EPBC Act), provide the following statement of reasons for my decision of 1 October 2007, under section 75 of the EPBC Act, that the proposed action by Armidale Dumaresq Council to develop a Regional Landfill at Waterfall Way, Armidale, New South Wales (EPBC 200713646), is a controlled action under the EPBC Act and that the controlling provisions are sections 12 and 15A (World Heritage properties) and sections 15B and 15C (National Heritage places).

Background:

4. The proposed action was referred under section 68 of the EPBC Act by the Armidale Dumaresq Council. The referral was received by the Department of the Environment and Water Resources on 22 August 2007. The referral indicated that, in the view of the Armidale Dumaresq Council, the proposed action is not a controlled action.

Council were wrong.

5. The proposed action is to develop a regional landfill near Waterfall Way, Armidale, NSW. The landfill will be located on two properties - Property 1: Lot 2 DP 253346, Lot 1 DP 820271 and Property 2: Lot 1 DP 253346 Parish of Gara, County of Sandon. The landfill will have a life of 50 years and construction will include development of an access road, leachate pond, sedimentation pond, amenities and installation of services.

No Changes to this proposal in EA.

6. The leachate barrier system will consist of a 900 mm thick layer of recompacted clay, with a leachate drainage layer, leachate sumps and drains and a leachate pond with a compacted clay bund designed to meet 1 : 100 year flood standards.

See 18 Liner failure

7. The site is approximately 86 hectares of predominantly cleared pastoral land 1 kilometre south of the Waterfall Way and 12 kilometres east of Armidale. The proposed land fill will take in excess of 650,000 tonnes of putrescibles waste.

No changes in waste proposal

8. The site is **1** kilometre from the Gara River which flows 4 kilometres southwards to the Oxley Wild Rivers National Park, which is a part of the Gondwana Rainforests of Australia World Heritage Area.

No changes in location

9. The New South Wales Department of Planning was informed of the referral in a letter dated 22 August 2007, pursuant to section 74(2) of the EPBC Act, and invited to provide comment. At the time of the decision no response had been received from the NSW Department of Planning.

10. In accordance with subsection 74(3) of the EPBC Act, the referral, together with an invitation for public submissions, was published on the Department's web site on 22 August 2007 for 10 business days public comment. A total of seven public submissions were received by the Department in response to the invitation. The submissions raised concerns about potential significant impacts on World Heritage values, National Heritage values and listed threatened species by contaminated leachate leaking from the landfill or floods overtopping bund walls and the leachate pond.

Evidence or other material on which my findings were based

12. The evidence or other material upon which my findings were based are listed as below:

A brief from the Department, dated 1 October 2007, including the following attachments:
- A copy of the referral (EPBC 200713646) for the proposed action and associated figures, including the following documents:
- Archaeological Surveys & Reports Pty Ltd, 2006: The Archaeological Investigation For Sites Of Indigenous Cultural Significance On The Site Of The Proposed New England Regional Landfill Waterfall Way, East Of Armidale, Northern Tablelands, NSW;
- EA Systems, 2006: Flora and Fauna Assessment Proposed New Armidale Landfill Facility;
- EA Systems, September 2006: Hydro-Geotechnical Assessment;
- RCA Australia, 2006 Geotechnical and Hydrological Investigation Proposed Armidale Landfill;
- Armidale Dumaresq Council Environmental Compliance Policy;

And
- Consent to Lodge Armidale Landfill DEWR Referral, 25 July 2007.
- Supporting advice provided by the Heritage Division of the Department of Environment and Water Resources.
- Supporting advice provided by the Approvals and Wildlife Division of the Department of Environment and Water Resources.