

Dear Sir/Madam

I am writing to submit comments on the above application. I have over 26 years experience in solid waste and recycling in the US and internationally, much of that involved in facility development. Critical to the success of a waste facility is a design based on accurate estimates of inflows, both in tonnage and in composition. Also critical are assumptions on cash flows and market availability as well as the type of technology proposed, the regulatory context, and the experience of the project proponents in this type of operation on this scale. I have witnessed the construction of a \$US134M material recovery facility in San Diego County that closed down less than two years after it opened because of false assumptions on tonnage flow and composition of materials as well as the use of technology that was not appropriate to the stream received. Several other waste facilities around the world have had similar fates.

I reviewed the latest reports available on the ACT no waste website with respect to tonnage composition and tonnage and the data in those reports is in conflict with those in the EIS. I also read the strategic plan, and the emphasis is on waste reduction, reuse, composting and other waste avoidance approaches, prior to the construction of plants such as this. I did bring all of this to the project proponent's attention at the August 23, 2017 public forum. Specific comments include:

1. Every assertion of available tonnage and available material composition should be footnoted with a third party reference where available and if there is no third party reference available, the basis of each assumption should be noted. For example, 300,000 tonnes is a number used throughout the report with 60,000 tonnes of that number being “estimated” to be divertable to recycling with $\frac{1}{4}$ of that tonnage being used locally. These numbers are not consistent with the most recent waste composition and waste tonnage flow studies done. Table 6 and Table 8 below are from the 2015 NoWaste Landfill and Transfer Station Audit Report. Contrast those available and total tonnes from the proponents reported tonnage in “Table 1: Waste Composition and Predicted Recovery Table” below. Looking at the total waste the contrast is 300,000 tonnes from the proponent and 170,000 tonnes from the No Waste report.

Looking at paper an another example, the NoWaste report shows a potential of 1,190 tonnes can be diverted across all sectors. The proponent states that 40% of 29,743 tonnes (combining MSW and C&I totals) is potentially divertable, ie 11,897 tonnes. These apparent discrepancies should be explained.

Given the very low diversion rates (even using what appear to be too high numbers) projected by the proponent, the facility should be identified as a waste transfer station with minimal harvesting of recyclables, many of which may not be marketable due to cross contamination...rather than a recycling facility. The concept appears to be to capture the waste (and the associated profits) and then to transfer Canberra's waste to the Woodlawn landfill in NSW. It is not clear that agreements have been discussed with the operator of Woodlawn or the EPA to ensure that there are no roadblocks to this transfer of waste.

Table 6: Overall waste composition by weight, by waste type

Consolidation Category	MSW	C&I	C&D	Overall
Garbage bags	3.7%	22.8%	0.6%	18.0%
Recyclables	12.4%	11.2%	13.0%	11.6%
Food / kitchen	0.0%	8.1%	0.2%	6.2%
Organic	3.5%	2.6%	2.5%	2.7%
Other Organic	1.6%	2.3%	0.3%	2.0%
Wood & wood products	22.5%	7.9%	24.9%	11.6%
Textile products	21.2%	2.8%	4.9%	5.0%
Other plastic/metal/glass	8.2%	4.9%	5.1%	5.2%
Polystyrene foam	0.4%	0.7%	0.2%	0.6%
Building materials	21.5%	3.6%	44.9%	10.7%
Hazardous	0.1%	0.5%	0.0%	0.4%
Other	5.0%	32.6%	3.3%	26.0%
Total	100.0%	100.0%	100.0%	100.0%

Table 8: Overall annual waste received, by weight, by waste type

Consolidation Category	MSW t/yr	C&I t/yr	C&D t/yr	Overall t/yr
Garbage bags	641	29,746	138	30,525
Recyclables	2,178	14,709	2,813	19,700
Food / kitchen	4	10,578	38	10,620
Organic	614	3,366	548	4,527
Other Organic	274	2,971	71	3,316
Wood & wood products	3,948	10,387	5,400	19,735

Textile products	3,718	3,640	1,070	8,428
Other plastic/metal/glass	1,433	6,348	1,097	8,878
Polystyrene foam	66	978	47	1,092
Building materials	3,777	4,739	9,738	18,253
Hazardous	23	689	5	717
Other	886	42,599	723	44,208
Total	17,563	130,750	21,687	170,000

Table 9: Overall waste: detail of potential diversion Recoverable, tonnes per year

Material	MSW	C&I	C&D	Overall
Rock/dirt/soil	648	41,659	170	42,478
Cardboard	1,910	9,356	1,829	13,095
Vegetation	360	3,323	352	4,035
Concrete / cement	696	295	1,956	2,947
Glass – containers	59	2,537	19	2,615
Tiles	550	330	1,191	2,072
Bricks	411	411	1,024	1,846
Covered furniture	835	464	88	1,386
Paper – recyclable	74	1,053	63	1,190
Plastic – containers	26	874	18	918
Metals - ferrous steel	50	370	374	794
Textiles – clothing/ cloth	262	465	47	775

Table 1: Waste Composition and Predicted Recovery Table

ACT MSW Profile			
	Category	%	Tonnes per annum
1	Paper	13.3	12,103
2	Food	37.7	34,307
3	Organics	13.4	12,194
4	Textiles	4.9	4,459
5	Glass	4.1	3,730
6	Plastic	10.6	9,646
7	Liquidpaperboard	0.3	273
8	Nappies	6.1	5,552
9	Metals	2.5	2,275
10	Hazardous	0.5	455
11	Inerts	2.4	2,185
12	Other	4.2	3,822
Total		100	91,000
High Recycle Potential Material			42,132
Possible recovery =		40%	16852

ACT C&I Profile (inc C&D "LIGHTS")			
	Category	%	Tonnes per annum
1	Paper	8.4	17,640
2	Food	7.7	16,170
3	Organics	2.7	5,670
4	Textiles	2	4,200
5	Glass	1.9	3,990
6	Plastic	6	12,600
7	Electric/insulation	0.6	1,260
8	Garbage bags	21.7	45,570
9	Metals	1.1	2,310
10	Hazardous	0.5	1,050
11	Inerts	38.9	81,690
12	Wood	8.5	17,850
Total		100	210,000
High Recycle Potential Material			141,750
Possible recovery =		40%	56,700

$$\begin{array}{r}
 73,552 \text{ tpa} \\
 \hline
 301,000 \text{ tpa} \\
 = 24.4\% \text{ overall recovery}
 \end{array}$$

- I have also heard that there are tonnage caps currently in place for the proposed Woodlawn landfill which would make the flow they are proposing taking there ineligible. It would seem that the low tipping fee at that landfill as compared to Mugga Lane tipping fee may be the reason for citing that destination - ie to make the proposal more financially attractive.
- This facility ignores the fact that much of the waste service provided by the ACT government is funded by tonnage disposed of at Mugga Lane and if that was diverted to a private facility, would result in a significant impact to the ACT government budget and the services provided to the community.
- Section 6.2 of the EIS scoping document requires that "Other relevant planning and environmental guidelines and management plans" be taken into consideration in the development of the EIS. It appears that selective quotes from these documents may have been used to misrepresent the available tonnage.
- The manager, Michael Trushell, of ACT NoWaste reported during an ABC interview on May 24, 2018 that the existing recycling facility at Hume had just been upgraded with a multi million dollar retrofit to improve the amount and quality of recycling done at that location. He also mentioned that there was ever increasing diversion occurring from the commercial industrial sector. This would seem to potentially render the currently proposed Capital Recycling plant redundant, or at the very least, their tonnage and composition estimates will be seriously in error by the time construction would be able to take place.
- The EIS quotes that it will create 48 full time jobs and 10 part time jobs – but this project would obviously destroy jobs currently handling that waste. After all, this is not new waste that is being handled....or is it???
- I think it is important to know if this project includes in its planning horizon the importing of waste from Sydney and Melbourne to ensure it is viable. If that is not the case, then the

community deserves a rock solid commitment that they will not become a major waste processing facility for those major cities.

8. Under traffic impacts the proponent states the new 5% increase in truck movements as negligible because it is only a 0.3% increase in overall vehicle use. According to this authoritative study, one trash truck is equivalent to 1,279 passenger cars in terms of damage to roads – see table on page 17: <https://www.lrrb.org/pdf/201432.pdf>. Not to mention health and noise impacts. In the “environmental” benefit graphic on page 21 of the EIS the proponent even goes as far as to say that there will be “no net increase in vehicle movements on ACT roads.”
9. Under “Materials and Waste” it was noted that all waste will be stored indoors. According to the ABC radio interview with the NoWaste manager, Michael Trushell, the current state of the industry is to store all of those highly combustible recyclables outdoors to mitigate the damage when they catch on fire. This change has already occurred at the existing Hume material recovery facility.
10. Under “Air Quality and Climate Change”, the proponent cites the diversion of recyclable as having “obvious benefits in terms of greenhouse gas abatement...” This does not make sense because they are not proposing to divert organics and they are the components in a landfill that create significant greenhouse gases, not glass, plastic, and metals or construction and demolition waste and other such inert materials. The proponent also states “further waste diversion ...of food and organics is also possible”, however, this project does not envisage this as designed and so that consideration would not be relevant.
11. In their risk assessment, they do not consider the risk to the project that they are not able to secure the tonnage needed to make the project viable in the first place and of course, if they do not get the tonnage, they will not get the revenue to implement all of the mitigating measures they refer to in this report. Waste collection from the Commercial and industrial sector, their target audience, is currently done by around 400 separate companies and there are not proposed mechanisms to require they bring their waste to this facility.
12. From a review of section 2.4.2 CRS Waste Processing, in the C&I Sorting Process flow graphic it appears the majority of the diversion will be done by 8 persons on a conveyor belt, however this graphic shows these persons removing “large inerts” from this line which is probably not feasible due to health and safety weight limits for manual lifting from a moving belt. Further along in this graphic it shows all of the waste being shredded by a Jupiter 3200 Preshredder and then another four persons removing the heavy fraction from the oversize and another four persons removing timber from the undersize. The proponent should be required to demonstrate that referent facilities using this type of equipment can achieve the diversion they are claiming. The MSW processing graphic shows a very primitive approach to recycling this fraction with no air knives, eddy current separators, optical sorting etc. It also shows all the waste again being preshredded before manual sorting begins. This will almost eliminate any glass sorting since it will all be broken and also contaminate all of the cardboard and paper with the crushed glass and wet waste. In short, it appears that this graphic shows that what is the most likely outcome here is, in my experience, not much more than 10% diversion – not the 24% claimed by the proponent. And in addition, the quality of those recyclables is in question and with the largest international market, China, recently telling the world they will no longer take dirty contaminated recyclables, there is a serious concern that even much of this 10% will have a market.

13. Much is made throughout the document of the capture of methane by the Woodlawn landfill. I have personally operated one of the largest landfill in California as well as several closed landfills and from personal experience – and from consulting with the largest landfill operators in the US as well as the regulators in California, that landfills, including bioreactor landfills, are at best a very leaky system and in the best run facilities, capture of methane above 80% of what is generated in the landfill is extremely difficult. By far, the best approach in terms of modern waste diversion technology in Europe and the US is to not allow organics to enter the landfill in the first place and to instead, introduce source separated composting and anaerobic digestion systems to capture the methane in a truly enclosed system.