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EPA Comments on Amended Environmental Impact Statement Documents

Dear Ms Laguna

Thank you for the referral to the Environmental Protection Authority (EPA) requesting comment on the amended Environmental Impact Statement (EIS) Documents for State Significant Development (SSD) application no.SSD-11606719.

The EIS has been prepared by Arcadis Australia Pacific Pty Limited on behalf of Dial-A-Dump Pty Ltd (the Proponent) for the proposed Eastern Creek Recycling Ecology Park Throughput Increase at Lot 1 DP 1145808, Lot 2 DP 1247691, and part Lot 2 DP 1145808, also known as 1 Kangaroo Avenue, Eastern Creek, NSW, 2766 (the Premises).

The Proponent holds Environment Protection Licence no.13426 for the operation of a landfill at the Premises (the Landfill Licence) and Environment Protection Licence no.20121 for the operation of a resource recovery facility at the Premises (the Resource Recovery Licence).

The EPA understands the Proponent proposes to increase the amount of waste permitted to be received in a 12 month period at the Premises from 2 million tonnes to 2.95 million tonnes along with infrastructure amendments and upgrades (the Proposal). The Proposal and associated EIS documents were on public exhibition between 14 July 2022 and 10 August 2022. During this period the Proponent received submissions from nine government agencies, community members, landowners, and special interest groups.

In response to submissions, the Proposal and associated EIS documents were amended (amended Proposal). However, the proposed annual throughput increase has remained the same, along with the staged approach. The amendments to the Proposal include:

- **Optimisation of internal traffic flows** including the removal of the northeast exit onto Kangaroo Avenue, removal of the internal southern landfill exit, and a new access connection within the Proposal Site between the existing site entrance (DADI Drive) and the Maintenance and Manufacturing Workshop
- **Stormwater infrastructure** amendments including the removal of Basin K, relocation of the gross pollutant trap to the northwest corner of the Eastern Creek REP and the replacement of the existing northern and southern onsite detention basins with a new sediment basin, water storage dam, bio-retention system and onsite detention tank (the northwest treatment train)
- **Urban design and landscaping** amendments including additional landscaping along the south and northeast of the Eastern Creek REP, a 'green wall' on new terraced retaining walls along Kangaroo Avenue using cascading plants, trees for shade in addition to groundcovers within parking areas and increased pot size for select species
- **Additional car parking** to the west of the Maintenance and Manufacturing workshop for up to 32 light vehicles.

The EPA has conducted a review of the information provided for the amended Proposal including the associated amended EIS documents.

The EPA has determined the provided information is insufficient for the EPA to adequately complete its assessment of the amended Proposal. Also, the EPA notes the EIS and associated documents only partially address some of the requirements set out in the Secretary's Environmental Assessment Requirements (SEARs).

Therefore, the EPA is unable to provide recommended conditions of approval for the amended Proposal at this stage and may recommend refusal if it remains in its current form. The EPA's comments are provided in **Attachment A** below.

The EPA has not considered Aboriginal cultural heritage, biodiversity, or built form and urban design requirements as these are the purview of the Department of Planning and Environment.

If you have any further questions about this issue, please contact Damon Bolton on (02) 9995 6621 or at damon.bolton@epa.nsw.gov.au.

Yours sincerely



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ATTACHMENT A

Background

The Proponent is currently undertaking scheduled activities at the Premises under the Landfill Licence and the Resource Recovery Licence. The Landfill Licence permits the scheduled activities of waste disposal (application to land) and waste storage. The Resource Recovery Licence permits the scheduled activities of composting, resource recovery and waste storage.

The EPA notes the amended Proposal would require the variation of the Landfill Licence and the Resource Recovery Licence to lawfully operate if approved. The EPA is unable to support the amended Proposal at this stage as a range of additional information is required to demonstrate to the EPA that the potential impacts of the activity have been adequately assessed, and that appropriate mitigation of these impacts will be in place.

The information is required to inform licensing considerations consistent with Section 45 of the Act including:

- (c) the pollution caused or likely to be caused by the carrying out of the activity or work concerned and the likely impact of that pollution on the environment,*
- (d) the practical measures that could be taken:*
 - (i) to prevent, control, abate, or mitigate that pollution; and*
 - (ii) to protect the environment from harm as a result of that pollution.*

The additional information, in relation to air, noise and water impacts, required to allow a comprehensive assessment by the EPA are detailed below.

Waste Levy

The EPA has previously raised concerns about the Proponent regarding record-keeping and reporting for the Premises, which has led to associated issues with levy liability calculations. The EPA is concerned these issues could be exacerbated by increasing the waste throughput limits currently in place.

The EPA will provide separate advice regarding this issue.

Air

The proponent has provided additional information to address concerns raised in the advice provided on the original AQIA. The proposed amendments that will result in a reduction to air emissions include:

- (a) reducing distances travelled within the Eastern Creek REP,
- (b) use of chemical suppressants on unsealed haul roads, and
- (c) introducing fixed water sprays on DADI Drive.

However, the EPA consider additional information is required to evaluate the potential impacts due to the proposal. Particularly, potential impacts due to maximum daily activities.

The EPA highlight the following issues:

1. Significant predicted impacts at commercial receptors

Results from the initial AQIA indicated that there were additional exceedances predicted at various receptors, including neighbouring industrial and commercial receptors. It was also highlighted that processing and wind erosion emissions from the SMA were a significant contributor to total particulate emissions, however no engineering controls are proposed.

The EPA requested that a revised AQIA should include:

- (a) Results of a source apportionment analysis to determine the main sources contributing to the predicted exceedances at the commercial receptors.
- (b) Additional mitigation measures and engineering controls for minimising emissions from the main sources contributing to off-site impacts. This is to include, but not be limited to:
 - (i) emissions from wheel generated dust such as fixed/automated sprinkler systems along haul roads.
 - (ii) activities within the SMA including crushing, screening, and wind erosion from stockpiles.
- (c) Additional options for monitoring and managing dust emissions from main sources.

The amended AQIA show the contribution of individual sources to the predicted ground level concentrations at two of the most impacted receptors, R31 and CL18 for the Stage 2 modelling scenario (i.e., maximum proposed throughput of 2,950,000tpa, no construction activities) still comprise of emissions from unpaved roads, paved roads and the segregated material area (SMA) material handling and timber shredding activities (in the range of 14-41%, see figures 8.3 and 8.4).

A number of controls to mitigate emissions from the above sources are proposed, however, full enclosure of the SMA was not considered necessary based on the material types being handled and stored according to the EU BAT.

The Response to Submissions (RtS) indicates that the options for monitoring and managing dust emissions from main sources are included in Section 10.5 of the AQIA. It should be noted that this section does not include any detail for monitoring and managing dust emissions and simply states that the Management and Monitoring Plans for air quality will be reviewed and updated as required.

EPA Position:

It is acknowledged that the amended proposal includes changes to the site layout aiming to reduce travelled distances and therefore emissions from truck movements. However, it should be noted that the estimated emissions from these activities also include a reliance on high control efficiencies.

Failing to achieve in practice the assumed high levels of control will increase the risk of adverse air quality impacts, including dust complaints due to the proposed operations. While the materials in the SMA have been classified as not being susceptible to dispersion, it is reasonable to expect the presence and accumulation of fine dust particles that are much more sensitive to lower wind speeds.

The use of dust deposition gauges may provide some data about the level of soil nuisance during a prolonged period of time (typically one month), it does not provide information/data at a suitable time resolution to identify peaks in emissions and or inform the implementation of any reactive measures to reduce the risk of adverse air quality impact and dust complaints.

Recommendations:

The proponent commits to the development and implementation of site-specific, measurable, and auditable key performance indicators to evaluate, in practice, the implementation of the nominated controls and commits to undertake real time monitoring that can be used to:

- a. Identify peaks in emissions that could result in adverse air quality impacts.
- b. Inform the implementation of any reactive mitigation measures.

2. Additional exceedance days due to peak emissions

Additional exceedances of the impact assessment criteria at various receptors were identified in the review of the initial AQIA and the EPA recommended it was revised to consider alternative operating scenarios to minimise emissions during each stage of the proposed development.

The RtS states that “*There are no exceedances predicted at any residential or commercial/industrial assessment location for any of the modelled air quality scenarios. As such, alternating operating scenarios are not considered justified based on the ASR AQIA which demonstrates that there are no additional exceedance days for peak emissions scenarios*”.

EPA Position:

It is acknowledged that no additional exceedances are predicted for any of the modelling scenarios based on the proposed annual average throughput. However, the analysis of results for the ‘*Stage 2 operations theoretical busy day*’ is not in accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW. Therefore, there is still uncertainty regarding the number of additional exceedances at all receptors.

Based on the analysis in Section 8.8 for ‘*Stage 2 operations theoretical busy day*’, the following should be noted:

- (a) it can be concluded that there are predicted additional exceedances of the 24-hr PM₁₀ criteria at residential receptor R31 and commercial receptor CL 18.
- (b) The additional exceedances are predicted for both the 95th percentile (i.e., 1.3 times higher than average throughput) and 100th percentile (i.e., 1.6 times higher than average throughput) sensitivity scenarios.
- (c) The analysis of results at other receptors could likely show that there are additional exceedances at other locations.
- (d) It is reasonable to assume that undertaking a similar analysis for other modelling scenarios (i.e., *Stage 1 + Construction operations theoretical busy day*) will also show that there are additional exceedances predicted at these receptors.
- (e) The analysis of results for the *theoretical busy day* does not include results for 24-hr PM_{2.5}. Therefore, additional analysis must be provided to robustly demonstrate that the proposal will not result in exceedances of the corresponding criteria.

Whilst the probability of exceedances to occur at individual receptors is included in Section 8.8, it is reiterated that this approach is not in accordance with the Approved Methods. Further, the methodology to estimate the probability of exceedances to occur at individual receptors, assumes that the probability of an exceedance to occur in the modelling period and the probability of busy day to occur during the modelling period are two independent events. However, this is not the case. Therefore, there is uncertainty regarding any conclusions drawn from the estimated probabilities.

It should also be noted that the analysis of results for the theoretical busy day shows the ‘sensitivity’ of the results and conclusions to changes in the input data and assumptions. For instance, it clearly shows that changes to the maximum daily throughput input data (i.e., number of truck movements and material handling rates) increases the likelihood of additional exceedances to be predicted. Therefore, highlighting the importance of the proponent to nominate the maximum daily throughput receipt and material handling rates.

Recommendations:

The proponent nominates the maximum proposed daily:

- (a) Receipt rates.
- (b) Truck movements (in and out).
- (c) Material handling / processing rates.

The dispersion modelling scenarios and assessment be revised to:

- (a) Demonstrate they are representative of reasonable worst-case emissions representative of maximum daily operations as per item (a) above.
- (b) Include additional mitigation measures to ensure no additional exceedances of the impact assessment criteria of all relevant pollutants using a contemporaneous approach as per the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW.

Where, the real time monitoring is proposed to be used to implement additional mitigation measures to demonstrate that compliance can be achieved with the impact assessment criteria, consideration must be given to the following:

- (a) Detailed discussion to demonstrate that the dispersion modelling has allowed for 'reaction time / delay' to implement the corresponding reactive measures.
- (b) Specific 'triggers' (e.g., meteorological conditions, concentrations) and specific actions to be used to inform the implementation of reactive measures.
- (c) Detailed discussion to specify how individual activities were modified (i.e., modelled) to be representative of the actual implementation of the proposed reactive mitigation measures.
- (d) A summary of the number of hours/days the reactive measures were included in the modelling.
- (e) Presenting a timeseries graph of cumulative impacts showing the effect of implementing the reactive control measures at a minimum of two of the most impacted receptors (i.e., receptors with the largest predicted increments). This must include but is not necessarily limited to:
 - i. Predicted concentrations with and without the implementation of the proposed reactive controls.
 - ii. The levels used to trigger the implementation of the proposed reactive controls.
- (f) A summary table showing incremental and cumulative ground level concentrations to demonstrate that no additional exceedances are predicted at any of the identified receptors for any of the modelling scenarios.

Given the heavy reliance on reactive mitigation measures to manage air quality, the EPA also consider it essential that the proponent commit upfront to the deployment of real time monitoring to inform operations and the implementation of any reactive measures to reduce the risk of adverse air quality, including short term amenity impacts.

It is noted that the licensee currently undertakes dust deposition monitoring. However, considering:

- (a) the scale of the proposal (large quantities of material to be received, processed, handled, and stored)
- (b) the nature of the site (large, exposed areas)
- (c) the proximity to receptors
- (d) the reliance on high levels of controls to reduce the estimated emissions (e.g., up to 97% control efficiency to reduce emissions from wheel generated activities)

it is appropriate that the proponent commits to undertake real time monitoring that can be used to inform on-site operations, identify peaks in emissions and inform the implementation of any reactive measures to reduce the risk adverse air quality impacts, including short term (less than 1 hour) amenity impacts that could result in dust complaints.

Noise

The previous noise issues raised, the proponent's response, and EPA's position are as follows:

1. Noise impacts in Minchinbury were not adequately assessed:

Proponent's Response: The revised NIA includes an additional three assessment locations in the area of EPAs concern in Minchinbury identified as R10-R12 . These additional locations are predicted to satisfy the applicable project noise trigger levels (PNTLs).

EPA position: Satisfactory.

2. Skip bin handling and storage noise assessment:

Proponent's response: The applicant has confirmed that the proposed Site Workshop and Maintenance and Manufacturing Workshop (SW&MMW) proposed for Stage 3 will be utilised for skip bin manufacture and maintenance. The revised NIA indicates that the proposed hours for the SW&MMW are 6am to 6pm seven (7) days. Noise modelling has demonstrated that both night time and daytime PNTLs are capable of being satisfied including sleep disturbance screening levels.

EPA position: Satisfactory.

3. Noise model validation:

Proponent's response: The revised NIA indicates that the model validation exercise comprised comparison of predicted noise levels with estimated premises levels during compliance measurement campaigns. The levels were estimated because noise from the premises was not audible at the receiver locations because of high ambient noise levels from the motorway. This type of validation approach is not ideal, however not totally without merit. The location of the motorway makes effective model calibration problematic due to high ambient noise levels and therefore a poor signal to noise ratio for noise from the premises.

EPA position: The predicted noise levels from the development are lower than the applicable PNTLs and significantly lower than prevailing ambient noise levels. Therefore, under these circumstances the calibration is considered acceptable.

The revised NIA states that the PNTLs for residential receivers are the same as the current site consent noise limits and EPA licence (EPL) limits during the day for Minchinbury and Erskine Park, for evening and night time periods for Erskine Par, and 1 dB less for Minchinbury during evening and night time periods.

However, Table 6-4 of the revised NIA identifies that the project is able to meet:

- levels of LAeq(15 minutes) 40/40/40 dBA under “full build” (i.e. Existing plus Stage 3 – Refer Revised NIA Figure 2-4) for residential receivers in Minchinbury under noise enhancing meteorological conditions; and,
- levels of LAeq(15 minutes) 35/35/35 dBA under “full build” (i.e. Existing plus Stage 3 – Refer Revised NIA Figure 2-4) for residential receivers in Erskine Park under noise enhancing meteorological conditions.

In accordance with EPA practice as outlined in the publication *‘What the NSW EPA Considers when Developing Noise Conditions for Activities Assessed using the Noise Policy for Industry Acoustics Australia Vol. 51, No. 2, June 2023’* (available on EPAs website at ([https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/noise-policy-for-industry-\(2017\)](https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/noise-policy-for-industry-(2017)))), predicted levels below the PNTLs are recommended to be adopted as limits. The EPA have draft conditions using the Noise Policy for Industry format (NPfI – EPA, 2017) that reflect the EPAs licensing approach for noise.

Construction noise is not predicted to be significant, however Planning may wish to impose a standard requirement for the preparation of a Construction Noise and Vibration Management Plan to outline how construction noise will be effectively managed on the site.

Water

In response to submissions on the EIS, the proponent is proposing amendments to the project to address issues raised. This includes changes to water management infrastructure to increase

storage capacity with the addition of a 6000m³ water storage dam, increasing water storage capacity by 50 percent. The EPA consider the amended assessment to partially address the requirements of the 'Soil and water' SEAR. The following issues have been identified:

1. Discharge quality and frequency not defined for north-eastern basin

The frequency, volume and quality of discharges from Basin B to the receiving waterway (Angus Creek) are not identified in the assessment and should be included to provide a full understanding of all the risks to waterway health posed by the site. This assessment should be conducted for the construction and operation phases of the project.

Recommendation:

Similar to the amended assessment provided for the north-western area, the assessment for the north-eastern area should:

- (a) provide the frequency of overflows/discharges to Angus Creek from Basin B during construction and operation
- (b) characterise the discharge from Basin B for the concentrations and loads of all pollutants with the potential to cause non-trivial harm during construction and operation
- (c) assess the potential impact of all discharged pollutant concentrations and loads on the environmental values of the receiving waterway, including typical through to worst-case scenarios, with reference to the relevant guideline values for a slightly to moderately disturbed waterway consistent with the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG2018) for toxicants and Table 4 of the Performance criteria for protecting and improving the blue grid in Wianamatta-South Creek (State of NSW and Department of Industry, Planning and Environment, 2020) for physical and chemical stressors. Reference to a site specific guideline value derived using a reference site consistent with ANZG (2018) and agreed to by the EPA is also an option
- (d) The assessment should consider (as a minimum):
 - (i) the ambient water quality of the receiving environment;
 - (ii) the appropriate level of protection for the uses and values of the receiving environment;
 - (iii) the potential for pollutant loading and associated risk for both chronic toxicity and the promotion of nuisance species;
- (e) demonstrate how the proposal will be designed, constructed and operated to:
 - (i) protect the Water Quality Objectives for receiving waters where they are currently being achieved;
 - (ii) contribute towards achievement of the Water Quality Objectives over time where they are not currently being achieved; and
- (f) demonstrate that all practical and reasonable measures to avoid or minimise water pollution and protect human health and the environment from harm are investigated and implemented.

2. Pollutants in the north west area discharge are at non-trivial levels

The assessment characterises the water quality at the current north western discharge point and the south western discharge point. It appears that water quality at the north western discharge point will reflect the proposed discharge in this part of the site to Ropes Creek during operation. The proposed north eastern discharge to Angus Creek has not been characterised (refer to recommendation above).

The north western discharge characterisation is based on a small number of samples (four) but indicates that the following pollutants are present at non-trivial levels by comparison to the relevant guideline values for a slightly to moderately disturbed waterway consistent with the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG2018) for toxicants and Table 4 of the Performance criteria for protecting and improving the blue grid in Wianamatta-South Creek

(State of NSW and Department of Industry, Planning and Environment, 2020) for physical and chemical stressors:

- Ammonia
- Copper
- Electrical conductivity
- pH
- Zinc

Although the assessment has not considered the impact of these pollutants on the environmental values of the receiving water way, the concentrations indicate that the discharges poses a risk to the environmental values of Ropes Creek.

The assessment notes that the segregated materials area (which is in the north western area of the site) has concrete stockpiles and the high pH is likely to be attributed to surface water coming into contact with concrete stockpiles in this area. It is likely that elevated ammonia, copper and zinc levels are also due to surface water coming into contact with waste stockpiles.

The loads of pollutants were not assessed in the amended surface water impact assessment, so the ongoing risk to waterway health has not been considered. In addition, the quality and frequency of construction discharges from this area of the site have not been assessed.

Recommendation:

Prior to commencement of Stage 1 the licensee should:

- (a) provide a revised surface water management plan (operation phase) that prevents clean surface and stormwater from coming into contact with stockpiles in the segregated waste area and other waste storage areas such as the timber waste yard, demonstrating that all practical and reasonable measures to avoid or minimise water pollution and protect human health and the environment from harm have been investigated and implemented.
- (b) commence a 12 month discharge monitoring program following the implementation of all practical and reasonable measures to prevent the generation of polluted surface water, to characterise the discharge from the north western area of the site.
- (c) assess the potential impact of all discharged pollutant concentrations (established through the monitoring program) and loads on the environmental values of the receiving waterway, including typical through to worst-case scenarios, with reference to the relevant guideline values for a slightly to moderately disturbed waterway consistent with the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG2018) for toxicants and Table 4 of the Performance criteria for protecting and improving the blue grid in Wianamatta-South Creek (State of NSW and Department of Industry, Planning and Environment, 2020) for physical and chemical stressors. Reference to a site specific guideline value derived using a reference site consistent with ANZG (2018) and agreed to by the EPA is also an option.
- (d) assess the potential impact of discharges during the construction phase in the north western area of the site on the environmental values of Ropes Creek, considering all the aspects and references outlined in the above dot point for operational impacts
- (e) The assessments should consider (as a minimum):
 - (i) the ambient water quality of the receiving environment
 - (ii) the appropriate level of protection for the uses and values of the receiving environment
 - (iii) the potential for pollutant loading and associated risk for both chronic toxicity and the promotion of nuisance species.
- (f) demonstrate how the proposal will be designed, constructed and operated to:
 - (i) protect the Water Quality Objectives for receiving waters where they are currently being achieved;
 - (ii) contribute towards achievement of the Water Quality Objectives over time where they are not currently being achieved.

3. **All reasonable and feasible mitigation measures have not been implemented to prevent polluted discharges**

The monitoring results demonstrate that pollutants are being generated by the site during operation, most likely due to rainfall and other clean water contacting uncovered stockpiles of waste in the segregated waste area, such as metals and concrete. Additional measures to prevent exposure of waste stockpiles to rainfall and stormwater runoff are required.