Lake Macquarie City Council

8 March 2018

Leah Cook
Department of Planning & Environment
L1, Suite 14, 1 Civic Avenue
Singleton NSW 2330

Dear Leah

Subject: **Awaba Waste Management Facility (AWMF) Expansion Project - Response to Department of Planning & Environment Site Inspection Report Dated 26 February 2018**

I refer to the above-mentioned project and your letter dated 26 February 2018 relating to the site inspection conducted 18 January 2018 by Michael Frankcombe of the Department of Planning & Environment, accompanied by Tess Dziwulski and Ross Lorenz of Lake Macquarie City Council.

We wish to advise that following the site inspection, immediate action was taken to address the issues raised during the inspection in relation to the site soil, water and dust management.

In accordance with your request and our conditions of project approval, we provide the attached action plan to address the identified site issues presented in your letter.

We trust this satisfies the requirements. Should you require further information, please do not hesitate to contact me on 4921 0553.

Yours faithfully

Adam Wakeman
Manager - City Projects

Attachment 1 – AWMF Action Plan

Our Ref: Your Ref: PA 10_1039

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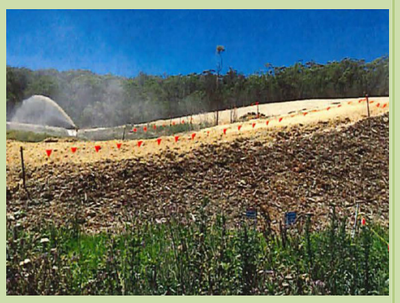
ATTACHMENT – AWMF ACTION PLAN

ISSUES RAISED BY THE DEPARTMENT OF PLANNING & ENVIRONMENT					ACTIONS CARRIED OUT AND PROPOSED BY LAKE MACQUARIE CITY COUNCIL (LMCC)			
Ref No.	**Aspect**	**Issue**	**Photos**	**Required Action(s)**	**Actions Undertaken**	**Photos**	**Completion Date**	**Further Actions Proposed**
1	Segregation of clean and dirty water	Clean run-on water can mix at three locations on site: - Upslope of Cell 2 - Where the Cell 2 haul road crosses the clean water drain - Where the clean water drain discharges from site S. 4, c.17(c) requires the diversion of existing clean surface water around operational areas of the site. S.4, c. 17(f) requires the prevention of cross contamination of clean and sediment or leachate laden water.	  	Segregate clean and dirty water. If unable to do so then install appropriate sediment and turbidity controls sized for the contributing catchment area and soil type(s).	For the cell areas, additional measures were placed and new measures were installed to ensure separation of clean water and dirty water. All geofabric drains that were reinstated or replaced for the clean water diversion drain have had black plastic placed under the geofabric as discussed to help with separation of dirty and clean water. *Upslope of Cell 2* (this is actually Cell 1) Dirty water was directed into a turkeys nest pond with mulch bunds to filter the water. Additional measures were installed in this area with sandbags and drains to keep the clean water separated from the dirty water. A new geofabric dish drain crossing was installed across the access track and this will be maintained regularly. *Where the Cell 2 haul road crosses the clean water drain (This is the access road between cell 2 and 1)* Mulch bunds were reinstated on the access ramp on each side and continue up the batter and across the top of the bund to ensure the batter is protected in the vicinity of the clean water diversion drain. *Where the clean water drain discharges from the site* Mulch bunds were reinstated in the area and in addition, the drain was lined from where it discharges from the culvert under the access road to the pipeline that goes under the minor construction access road along the boundary of the site.	  	Completed 23 January 2018	All Erosion and Sediment Control measures are inspected and recorded weekly across the site. At the locations where works are occurring on site the measures are inspected daily by the works supervisor. Inspections are also conducted within 24 hours of expected rainfall and within 18 hours of a rainfall event that causes runoff on the site. Any required maintenance will be undertaken immediately. The clean water drains in the cells are part of these inspections. Daracon and LMCC have prioritised the installation of the 900 diameter HDPE clean water pipeline so that the clean water from the gullies can be managed as soon as possible through the pipeline and discharged off site in accordance with the final design. 1, 3 and 7 day forecasts are reviewed with regards to keeping a close eye on pending rain. Daracon and LMCC continually discuss the erosion and sediment controls on site and the movement of water on the site as the construction works are located in and around the operational areas.

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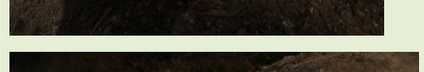
2	Selection and installation of erosion controls	Rolled erosion control products are not installed in accordance with Landcom (2004). Geofabric is inappropriate for soil type due for the potential to water to go through the fabric and erode the dispersive soil underneath. S.4, c.13 requires suitable erosion and sediment control measures to be implemented in accordance with Landcom (2004). See detail in Standard Drawings SD 5-2 and SD 5-7. See s. 3.2.6 of Landcom (2004) re dispersive soil properties. S.14, c.14 (a) requires the minimisation of any soil loss through erosion on site.		Install appropriate erosion control(s) at this location to ensure: - Clean water cannot contact exposed soil - Water cannot get under the product and erode the dispersive soil	All of the reinstated drains for ESC measures have had black plastic placed under the geofabric to assist in the management of dispersive soils. In other instances black plastic is installed directly into drains. This has recently also been used on pond 3 which is the new pond under construction near the site office. Daracon have had an experienced environmental consultant visit the site to discuss the issue of dispersive spoils and sediment and erosion control measures. They have also inspected additional ESC measures recently placed. This drain was inspected during the recent heavy rain and worked well. Where the access track is used across the drain it is cleaned or reinstated prior to rain occurring. Use of this track is being minimised.	  	Completed 23 January 2018	Daracon are currently booking our engineer on site into a 3-day course to provide better skills directly on site with regards to compliance with Landcom (2004). Daracon will book their engineer into the next available course in Sydney. Daracon have employed a new experienced Environmental Co-Ordinator who will be closely involved in the Awaba project along with our environmental consultant. All Erosion and Sediment Control measures are inspected and recorded weekly across the site. At the locations where works are occurring on site the measures are inspected daily by the works supervisor. Inspections are also conducted within 24 hours of expected rainfall and within 18 hours of a rainfall event that causes runoff on the site. Any required maintenance will be undertaken immediately.
3	Maintenance and sizing of sediment controls	Sediment controls have been poorly maintained on the north-eastern side of the construction works allowing sediment and turbid water to discharge from site. Soil tracking Some sediment controls on the eastern side of the construction works appear to be undersized for the contributing catchment area (particularly where the clean water drain mixes with turbid site water). S.4, c.13 requires suitable		Ensure all disturbed catchments report to appropriate sediment controls. Undertake soil loss calculations to determine appropriate sediment controls for the contributing catchment areas, soil types and TSS discharge	Additional mulch bunds have been installed for extra capacity. An experienced environmental consultant has been engaged to provide further advice to Daracon. See also dot point 7 with regard to revised erosion and sediment control plans.	No photo	Completed 23 January 2018	All Erosion and Sediment Control measures are inspected and recorded weekly across the site. At the locations where works are occurring on site the measures are inspected daily by the works supervisor. Inspections are also conducted within 24 hours of expected rainfall and within 18 hours of a rainfall event that causes runoff on the site. Any required maintenance will be

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		erosion and sediment control measures to be implemented in accordance with Landcom (2004). S. 4, c.16 requires that all licenced surface discharge from site comply with the EPL and PEO Act.		limits nominated by the EPL. Amend the Progressive Erosion and Sediment Control Plans.				undertaken immediately. The catchment areas for the construction works are being checked by an experienced environmental consultant with regards to the sizing of sediment and erosion control measures. The measures currently in place have been checked during recent rain events.
4	Soil tracking	Soil is being tracked from site to Wilton Road. S. 4, c. 7(c) requires the minimisation of tracking mud from the site on public roads. S. 4, c. 24(c) requires that all loaded vehicles leaving site are clean of dirt, sand and other materials before they leave site to minimise mud tracking.		Implement practices to prevent soil tracking from site and clean up contaminated roads.	During wet weather, the access road that is located near the weighbridge and provides access to the new re-use centre is closed and has a road closed sign placed on the gate. Works access closed to the bypass road during wet weather. Works access to earthworks areas with clay closed during wet weather for large earthmoving plant and minimised for light vehicles for essential tasks only. Access roads maintained with street sweeper and spot cleaning as required. Blue gravel has been placed on the access road to the main office to stop mud tracking of light vehicles. The issue of mud tracking has been tool boxed with site personnel.	No photo	Completed 23 January 2018	Access and egress restricted from certain work areas following rain events to prevent soil from being carried offsite. Access to the reuse centre is being changed and provided with a blue gravel track. The permanent works for the re-use centre will be brought forward to provide all weather access to this area. (i.e. vehicles traveling on base pavement) The bypass road once completed will be spray sealed to ensure good all weather access for all traffic. Access roads maintained with street sweeper and spot cleaning as required.
5	Extent and duration of soil disturbance	Large areas of the site are exposed to erosive forces without erosion protection. S. 4, c.14 requires the minimisation of any soil loss through erosion on site.		Provide temporary and/or temporary erosion protection to disturbed areas. Erosion protection should also include mitigation of dispersive soils.	Erosion and sediment control measures are in place around the site and have been previously inspected and recently inspected by an experienced environmental consultant. The eastern batter shown in this photo is only partly completed as we are installing the clean water pipeline at the	No photo	Completed 23 January 2018	The catchment areas for the construction works are being checked by an experienced environmental consultant with regard to the sizing of sediment and erosion control measures and other measures that may be employed. The works programme is

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					base of this current batter to help manage as soon as possible the diversion of clean water from the northern gullies through the site. The liners in the cells cannot be installed until the entire length of the batter is prepared as the liner extends from the top to the bottom of the batter. The batters will have erosion and sediment control check bunds or other measures installed which will be removed just prior to the liner being placed. The measures to be installed are currently being discussed with our environmental consultant			being reviewed with regards to staging of the works and lining of the cells.
6	Dust	Excessive dust was observed being generated from vehicles and machinery involved in construction works. S.4, c.23 requires the implementation of best management practices, including all reasonable and feasible dust mitigation measures to prevent and minimise dust emissions.		Implement appropriate dust control measures	Daracon have a water cart full time on site during the works. A second water cart was deployed and used when required during the hauling operations. Experienced water cart operators are used on the project to ensure the haul roads are damped sufficiently to ensure reasonable and feasible measures are used. The water cart operators are careful to ensure the correct amount of water is applied as two much water can cause safety issues with trucks loosing traction and sliding. In addition, if too much water is applied then it can increase the risk of light vehicles transferring sediment from the construction areas onto the sealed roads that the public assess on the site. The roads are dressed or graded on a regular basis to remove the bull dust from the surface.	No photo	Completed 23 January 2018 and ongoing	Daily management and application of water to suppress dust to be used as required. Ongoing monitoring by Daracon and LMCC to continue.

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7	Erosion and Sediment Control Plans	The Overarching Erosion and Sediment Control Plan (OESCP) prepared by GHD does not adequately assess the erosion and sediment control risk posed by the dispersive Awaba Soil Landscape. It does not provide management/ mitigation measures to address soil dispersion and many of the proposed control measures are inappropriate for the physical and chemical properties of the soils. The OESCP does address all the relevant requirements of Landcom (2004). The Progressive Erosion and Sediment Control Plans (PESCP's) are non-compliant with Landcom 2004, do not provide soil loss calculations for each subcatchment and do not address the physical and chemical constraints of the site soils. S. 4, c.13 requires the implementation of suitable erosion and sediment control measures in accordance with Landcom (2004) to be documented in the CEMP in accordance with s. 5, c. 1.	No Photo	Revise the OESCP and PESCP's to address the relevant requirements of Landcom (2004) and the physical and chemical constraints posed by the site soils. These should be prepared by a CPESC (suitably qualified and experienced expert) in accordance with s.4, c. 19.	LMCC has obtained advice from GHD with regard to addressing the risk associated with dispersive soils. GHD has requested the reviewer indicate the specific non-compliant gaps identified in the OESCP. In addition, black plastic is being placed under geofabric for all clean water drains on site noting that this is not a requirement for the final works constructed in accordance with the approved design. Daracon have had an experienced environmental consultant visit the site to provide advice with regards to this issue. The areas for the construction catchments have been recalculated and the revised sediment and erosion control plans have been developed and are in the process of being checked.	No photo		The catchment areas for the construction works will be checked as the works progress and revised sediment and erosion control plans will be completed when required. The erosion and sediment control plans will include measures to adequately address key site erosion hazard in accordance with Managing Urban Stormwater - Soils and Construction Volume and Landcom 2004 (Landcom 2004) (Schedule 4, condition 13);