



STRATEGIC ENVIRONMENTAL
AND ENGINEERING CONSULTING

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CPBG JV

By email:

our reference: 21000264-ESCR-04-06-20230628

your reference:

28 June 2023

CC:

Dear ,

**Soil Conservationist Inspection of Erosion and Sediment Controls;
Various Sites, Airport Metro SBT; 29 May and 9 June 2023**

On 29 May and 9 June 2023 I conducted an independent site inspection and audit of the erosion and sediment control measures across CPBG JV's Airport Metro SBT Project sites. During these inspections I was accompanied at various times by the Supervisors and environmental coordinators/advisors.

Two reports were issued to CPBG JV staff, one for each of the above inspection/audit dates.

This report serves as a consolidation of those initial two reports. This report was prepared to address the requirements for an audit of erosion and sediment control measures across the site, in accordance with a Direction Notice issued by the NSW Department of Planning and Environment (DPE) (DPE reference: SSI-10051, issued 5 June 2023).

In completing the audit and preparing this report, I undertook the following:

- An inspection of all active sites associated with CPBG JV's works on SSI-10051.

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- An assessment of the adequacy of erosion and sediment control measures at each site, having regard to Approval Conditions E127 to E129 of SSI-10051 and the approved Soil and Water Management Plan.
- A comprehensive summary of recommendations for rectification, improvement, maintenance or repair where deficiencies were identified in the erosion and sediment control measures.
- Provision of positive feedback, where I believed measures warranted such feedback.
- Inclusion of suggested timings/priorities for closing out or implementing any recommendations, which were considerate of the weather forecast at the time of making those recommendations, and the relative risk of non-compliance with relevant Approval Conditions.



Overall, erosion and sediment control is mostly well-managed across the sites inspected/audited. Most of the issues I identified were relatively minor. However, I noted some high priority items at Orchard Hills that require more urgent attention. I also noted that, if significant rainfall was to be forecast, a number of actions and recommendations would become more urgent to address concerns regarding erosion and sediment control (in particular, clean and dirty water management) at the Aerotropolis site.



I am aware that there were concerns raised earlier this year regarding mud tracking at St Marys. These appear to have been addressed well, and I commend CPBG JV for their efforts on that issue.



The following table provides details of my recommendations/actions for ongoing compliance with Approval Conditions E127 to E129 of SSI-10051 and the approved Soil and Water Management Plan, along with some positive feedback as well.

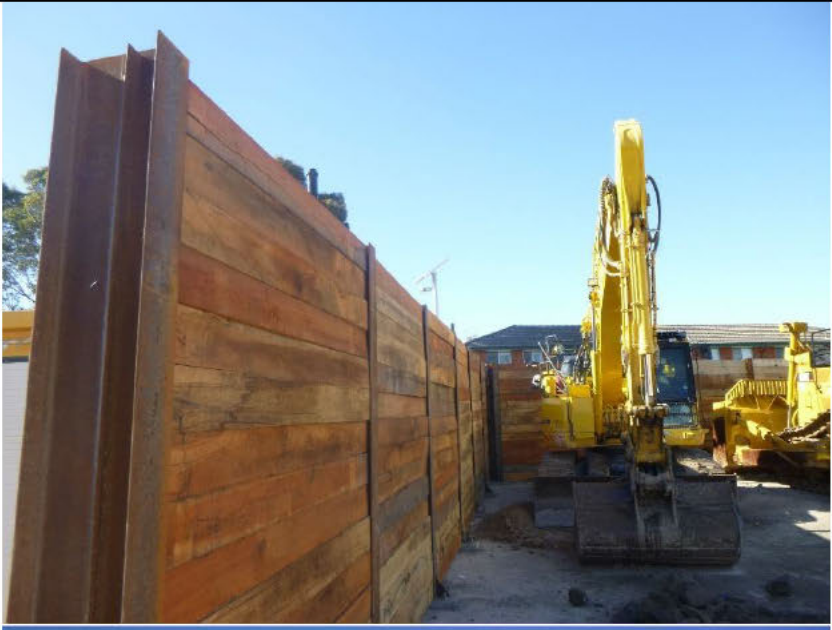

Note that, the weather forecast at the time of undertaking this audit was taken into account when making recommendations in this report, and when assigning priorities to each recommendation.



No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
1.	St Marys	<p>Positive feedback:</p> <p>Excellent use of long-term ground cover (concrete) to create a stable site.</p>		Positive feedback	N/A
2.	St Marys	<p>Positive feedback:</p> <p>Excellent wheel wash facilities and appears to be working well. Little or no sediment tracking offsite.</p>		Positive feedback	N/A



No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
3.	St Marys	<p>Positive feedback:</p> <p>Multiple levels of control around pit in laydown yard.</p>		<p>Positive feedback</p>	<p>N/A</p>
4.	St Marys	<p>Runoff from the wheel wash trickles through the laydown yard and picks up small amounts of sediment on its way.</p>		<p>Continue to sweep the yard regularly and remove as much sediment as possible.</p> <p>Consider diverting runoff from the wheel wash to a sump close to the wheel wash for re-use or pumping to the WTP.</p>	<p>Medium</p>



No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
5.	St Marys	<p>Moxy haul road shows significant sediment build-up.</p> <p>Sumps are in place, but ongoing sweeping is required.</p>		<p>Continue to sweep this clean prior to forecast rainfall to minimise the amount of sediment that runs to the sump.</p> <p>No other action is required here – the controls in place are appropriate.</p>	Ongoing medium priority
6.	St Marys	<p>Sump at entrance to moxy haul road.</p> <p>Risk of dirty water splashing over the kerb and missing the sump.</p>		<p>Extend the concrete lip on top of the kerb along the alignment shown (and as discussed onsite). Raise it by about 100mm.</p>	Medium


No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
7.	St Marys	<p>Positive feedback:</p> <p>Stockpiling is only occurring on the south side of the ridge in the concrete pad.</p> <p>This ensures that all sediment-laden runoff from the stockpiling area runs to the nib wall, not off to the north.</p>		Positive feedback	N/A
8.	St Marys	<p>Nib wall is working well to trap dirty water runoff from the stockpiling area.</p> <p>However, no materials should be stored here – they reduce the capacity of the sump created by the nib wall.</p>		Remove materials and bin from the nib wall sump area.	Medium



No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
9.	St Marys	Sprinklers for dust suppression are great, but they throw a coarse spray. Should be a fine mist.		Adjust the sprinkler heads to a fine mist.	Low
10.	Orchard Hills	Clean water drain ripped up by recent works.		<p>Spray this area with polymer binder and seed.</p> <p>(Note that photo evidence was provided by CPBG JV staff that this has been closed out already)</p>	Closed out



No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
11.	Orchard Hills	<p>Fabric is incorrectly laid.</p> <p>Needs to be lapped correctly, similar to roof tiles.</p>		<p>Lap the fabric correctly so that water won't go under the fabric.</p> <p>Upslope fabric must go over the downslope fabric.</p> <p>Note that the chutes are fine otherwise – there's no need for rock as well.</p>	Medium
12.	Orchard Hills	<p>Basin capacity needs to be checked to ensure it meets the ESCP minimum.</p>		<p>Basin has accumulated plenty of sediment, and needs to be de-silted if the capacity falls below the minimum required under the ESCP.</p> <p>Check capacity against the ESCP.</p>	Medium



No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
13.	Orchard Hills	<p>Backside of the stockpile site:</p> <p>Inadequate installation of silt fence – not dug in properly.</p> <p>And</p> <p>Stockpiles require ground cover to reduce the risk of erosion.</p>		<p>Install the silt fence properly – trench it firmly into the ground to at least 150mm.</p> <p>And</p> <p>Spray the backside (east face) of the stockpile with polymer binder.</p>	<p>High</p> <p>High</p>
14.	Orchard Hills	<p>Runoff from part of the stockpile would miss the basin.</p>		<p>Extend the bund as shown to ensure that as much as possible of the stockpile will direct runoff to the basin.</p> <p>(Note: photo provided by CPBG JV staff to demonstrate this has already been closed out)</p>	<p>Closed out</p>



No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
15.	Orchard Hills	NE sediment basin spillway has a silt fence across it.		<p>Re-jig the silt fence along the sides of the rock-lined spillway as shown in red.</p> <p>Remove the silt fence from across the rock spillway.</p>	Low
16.	Orchard Hills	Eastern haul road – silt fences not dug in properly.		Install the silt fence properly – trench it firmly into the ground to at least 150mm	Medium



No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
17.	Orchard Hills	<p>Eastern haul road:</p> <p>Coir logs require minor housekeeping.</p> <p>And</p> <p>Polymer binder is good but top-dressing it on the road makes it slippery and it doesn't last very long. Use an alternative methodology to get better results.</p>		<p>Tidy up the controls along this edge so they provide adequate filtering of dirty water runoff from the haul road.</p> <p>And</p> <p>In future, blend the trafficable polymer into the road by:</p> <ol style="list-style-type: none"> 1. Ripping the road to 100mm with a grader or a toothed excavator bucket. 2. Spraying the trafficable binder (e.g. Vital HR), then 3. Rolling the road to blend the polymer binder and the road material together. 	<p>Medium</p> <p>Low</p>
18.	Orchard Hills	<p>Positive feedback:</p> <p>Good use of ground covers to establish clean water flowpaths.</p>		<p>Positive feedback</p>	<p>N/A</p>



No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
19.	Orchard Hills, far south of the site	<p>Minimal controls in place along the southern boundary.</p> <p>Silt fences are poorly installed.</p>		<p>Ensure silt fences are properly installed:</p> <p>Trench them in at least 150mm deep. Returns at 20m intervals</p> <p>Posts at 2.5m centres (metal posts) or 1.5m centres (wooden posts)</p>	High
20.	Orchard Hills, just north of Lansdowne Rd	<p>Positive feedback:</p> <p>Good use of a temporary sump to detain dirty site water</p>		Positive feedback	N/A

No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
21.	Orchard Hills	The proposed vegetation removal along the eastern boundary should include mulch bunds (or earth bunds) along the eastern edge.		If possible, reuse the mulched vegetation to create a mulch bund at least 500mm high along the eastern edge of the cleared area.	Low
22.	Orchard Hills	Swale drain along western edge, south of Lansdowne Road is suitable as is, and does not need to be stabilised further.		No action required.	N/A

No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
23.	Aerotropolis	<p>The upslope catchment is being developed now, which will dramatically increase the amount of run-on into the Aerotropolis site.</p> <p>The clean water drain is still not complete.</p>		<p>The clean water drain should be completed and lined as soon as practicable.</p> <p>There is currently little or no rain on the forecast, so this is not a significant issue at this time. However, if the forecast changes and significant rain is likely, the present setup of this drain is likely to contribute to:</p> <ul style="list-style-type: none"> A. A high risk of dirty water discharging from the site; and B. Additional volumes of water for the project to have to floc, test and discharge. <p>Completing this drain will take time, so should be prioritized as much as practicable.</p>	High
24.	Aerotropolis	<p>Clean water drain not lined. As a result, any water in this drain must be managed as dirty water.</p>		<p>If this drain needs to be vegetated, it will need to be veneered with topsoil prior to seeding.</p> <p>Alternatively, a compost blanket could be sprayed onto the drain (note that the cost of compost blanket is generally quite high and the lead time could be long because of the quantities of compost that are required).</p> <p>A biodegradable mat or mesh (e.g. jute mesh) should be placed over the topsoil or compost blanket in the invert of the channel.</p> <p>If the channel doesn't require vegetation, consider just using thick jutemat (700gsm), shotcrete or concrete canvas (or a similar GCCM)</p>	High

No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
25.	Aerotropolis	<p>Stockpiles in the southern corner are not ground covered as per Blue Book guidelines.</p> <p>Note that this is a low risk in terms of sediment pollution, but is a potential non-conformance.</p>		<p>Spray the stockpiles with soil binder (or an alternative ground cover)</p>	<p>Low</p>
26.	Aerotropolis	<p>Sediment basin spillway is not complete and doesn't extend to the boundary.</p>		<p>Extend the spillway all the way to the boundary discharge point, and fully line the spillway.</p>	<p>Low</p>

No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
27.	Aerotropolis	Spillway poorly constructed – the rock has filled up the swale.		Re-dig the spillway so that the finished level of the rock creates a trapezoidal profile and the water will flow in the channel, not around the sides of it.	Low
28.	Aerotropolis	Stockpile adjacent to the basin blocks a large amount of site water from reaching the basin.		Remove this stockpile and form up the drain to direct all site water into the basin.	Medium

No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
29.	Aerotropolis	Dirty water runoff from this batter would flow to the low point, where there are only minimal controls.		Finish off the batter, veneer it with topsoil and vegetate it.	Medium
30.	Aerotropolis	Stockpile adjacent to the basin blocks a large amount of site water from reaching the basin.		Remove the stockpile and form up the drain to direct all site water into the basin.	Medium

No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
31.	Bringelly	<p>Positive feedback:</p> <p>Basin appears to be stable, well-constructed and is being maintained appropriately.</p>		Positive feedback	N/A
32.	Bringelly	<p>Positive feedback:</p> <p>Good use of lined dirty water drains to direct site runoff into the basin.</p>		Positive feedback	N/A

No	Location	Details	Photo (if Applicable)	Action or Recommendation	Priority (at the time of inspection)
33.	Bringelly	<p>Stockpiles in the western corner are not ground covered as per Blue Book guidelines.</p> <p>Note that this is a low risk in terms of sediment pollution, but is a potential non-conformance.</p>		Spray the stockpiles with soil binder (or an alternative ground cover)	Low

If you would like to discuss any aspect of this report, please feel free to contact me on [REDACTED] or [REDACTED].

Yours faithfully,

[REDACTED]

[REDACTED]

[REDACTED]