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BARANGAROO SOUTH SECTION 75W – BULK EXCAVATION AND BASEMENT CAR PARKING WATER QUALITY MONITORING REQUIREMENTS REPORT

This letter has been prepared by WorleyParsons to support an application that is made pursuant to S75W of the Environmental Planning & Assessment Act 1979 to modify approval issued in respect MP10_0023 for Bulk Excavation & Basement Car Parking. This S75W application seeks the Ministers approval for the onsite production of pre-mixed concrete through the use of a concrete batch plant.

The proposal involves the erection & operation a concrete batch plant for the purpose of supplying concrete for the site works. The basic function of the plant is to mix water, cement, fine & coarse aggregates & admixtures to form pre-mixed concrete.

WorleyParsons has reviewed and assessed the following information in respect of the S75W application:

- Water quality controls that are proposed for the concrete batch plant site, as outlined in email correspondence from Boral Resources Country Pty Ltd to Lend Lease, dated 26 March 2012;
- Drawing titled "Site GA", prepared for the proposed Barangaroo Onsite Concrete Plant by Boral Resources Country Pty Ltd, provided via email to WorleyParsons on 23 March 2012; and
- The document, *Environmental Guidelines for the Concrete Batching Industry*, prepared by the Environment Protection Authority, State Government of Victoria, dated June 1998.

The Water Quality Monitoring Requirements report prepared by Worley Parsons (dated 15 September 2010) to support the original Project Application addressed the water quality monitoring requirements associated with the wider Barangaroo South site. Based on the information outlined in the above documents and drawings, we consider that the concrete batch plant, if located as indicated in the Concrete Batch Plant Location Plan LLPMC Rev.0, will not adversely affect water quality in Sydney Harbour.

In any case, there are a number of measures currently in place to satisfy the water quality compliance obligations for construction works undertaken as part of the Bulk Excavation and Basement Car Park. These include:

- A water treatment plant is located onsite to ensure that stormwater entering the site is suitably treated prior to discharge to the harbour. Whilst water generated by the concrete batch plant



will be captured by appropriate environmental measures (such as bundling), any unexpected discharge of concrete or slurry discharge from the site would be contained and treated by this plant prior to discharge into the harbour;

- a silt curtain is in place beyond the site seawall to capture and prevent sediment laden or untreated water from entering the harbour waters from the water discharge plant. The silt curtain comprises a floating boom with a weighted curtain of either an approved porous geotextile fabric. This fabric is capable of containing suspended sediment such that the turbidity criterion developed for the project is not exceeded. The curtains are appropriately managed at all times, with inspections conducted on a regular basis and following a major rainfall or swell event.
- visual inspections of water quality conditions in the harbour in the vicinity of excavation works for the basement car park are undertaken on a regular basis. These inspections involve a visual assessment of any turbidity plumes, oil and grease or other construction materials in the harbour in the vicinity of the excavation areas. Inspections will also be carried out on the erosion and sediment control measures to ensure that they are working effectively and not posing any threat to water quality conditions. All inspections are carried out by relevant site environmental personnel.
- continuous (i.e. every 15 minutes) monitoring of conductivity, pH, temperature and turbidity at 3 sites surrounding the construction zone (comprising of one background site and two nearfield sites) is undertaken. Results are available in real time and include alarming protocols that indicate when turbidity readings at the nearfield monitoring sites are nearing the project exceedance limits (value corresponding to 50mg/L TSS, which in this case is 63 NTU + Background). An “amber” alarm is triggered when two consecutive 15 minute near field turbidity values exceed 70% of the turbidity limit. A “red” alarm is triggered when three consecutive 15 minute near field turbidity values exceed the turbidity criterion value. These alarms are sent to project environmental personnel so that, when necessary, timely and effective action can be taken to ensure environmental requirements are met;
- the background monitoring station, which is located away from the construction zone, assists in determining the relative impact of non-construction processes on water quality levels recorded in the construction area by the near field stations. For example, in the case of large stormwater events caused by period of intense or prolonged rainfall, elevated readings at both background and nearfield locations are used to demonstrate that diminished water quality as a result of stormwater flows into the harbour are not related to construction activities, but rather are part of a larger scale event. The comparison between the background and nearfield monitoring sites is an additional tool that can be used to reduce the risk of the concrete batch plant impacting on the harbour water quality.
- a monthly water quality monitoring report that contains results for water quality monitoring around the site, an interpretation of those results and any relevant site management responses.
- Any dust generated by the concrete batch plant will be managed on site, however should dust be blown off site and deposited on the harbour waters, the turbidity monitoring stations will reflect this. If levels increase towards the project exceedance limits (which would be not expected to occur due to dust), project environmental personnel will be alerted, and appropriate checks carried out.



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Whilst it is not envisaged that the concrete batch plant will create any environmental impacts to the surrounding water quality, the above mitigation measures will remain in place for the duration of the Bulk Excavation and Basement Car Park construction works, and as such, would be sufficient to monitor any discharge that may be generated by or flow from the concrete batch plant.

WorleyParsons is of the opinion that the proposed modification to MP10_0023 does not require any additional supporting information, analysis or commentary in connection with water quality.

Yours sincerely

WorleyParsons

Patrick McCallum
Manager Marine and Coastal
WorleyParsons