

3 September 2018

Steve Rogers  
Jacksons Landing Coalition Inc  
8C, 2 Bowman Street  
Pyrmont NSW 2009

Dear Steve,

**RE: GLEBE ISLAND DEVELOPMENTS – TRAFFIC REVIEW**

I refer to the request of the Jacksons Landing Coalition Inc that SALT undertake a review of the traffic analysis undertaken in support of the proposed developments at Glebe Island, including the Hanson Concrete Batching Plant and Port Authority of NSW Multi-User Facility.

Specifically, I understand that the coalition holds concern with the impact on the intersection of The Crescent and James Craig Road, Rozelle, and potential subsequent congestion on the Anzac Bridge and Victoria Road.

The following comments are my initial review and opinion with respect to the material available, rather than a detailed traffic assessment and modelling exercise of my own.

**RELEVANT MATERIAL**

The following material has been reviewed:

- Traffic Impact Assessment prepared by AECOM, Revision 0 (Final) dated 12 March 2018;
- Review of Environmental Factors prepared by AECOM, Revision 2 (Final) dated 24 January 2018;
- Site Plans (x3) prepared by HANSON, Revision A dated 5 March 2018;
- Environmental Impact Statement prepared by Ethos Urban dated 14 March 2018;
- Letter from Transport for NSW to Mr Stephen Paull dated 6<sup>th</sup> April 2018;
- Letter JBA Urban Planning Consultants to the Department of Planning and Environment dated 8<sup>th</sup> June 2017;
- Letter from Transport for NSW to Mr Cameron Sargent of the Department of Planning and Environment dated 14<sup>th</sup> May 2018;
- Letter from Transport for NSW to Mr Cameron Sargent of the Department of Planning and Environment dated 16<sup>th</sup> May 2018;

**PROJECT OVERVIEW**

There are two separate projects currently under consideration for Glebe Island:

*Hanson Concrete Batching Plant*

From the Traffic Impact Assessment by AECOM:

*"Hanson Construction Materials Pty Ltd is seeking approval for the development of a new intermodal concrete plant to be located adjacent to Glebe Island Berth one (GLB1). The plan is for the proposed development to be designed with a capacity to produce up to 1 million cubic metres of concrete per annum.*

*The plant will be supported by the new aggregate shipping terminal facility at GLB1 with the concrete aggregate delivered to the plant by ship from the Hanson Bass Point Quarry. Additionally, the shipping facility will also support the Hymix concrete batching plant at Pyrmont. By facilitating delivery by ship, the proposed development will reduce the number of trucks required to haul aggregates into Sydney on the regional road network by up to 65,000 vehicles per annum.*

*The plant is expected to operate 24 hours a day, 7 days a week. The proposed facility will employ 67 employees across two shift patterns, a day shift and a night shift. Given the nature of the site operation, on-site workforce numbers would typically be spread across any given 24-hour period."*

Vehicle access to the facility is proposed via a single access point to James Craig Road, which in turn connects to The Crescent at an existing signalised intersection.

Additionally, access to Glebe Island appears to be available via Robert Street to the north via a private road connection. This is not discussed within any of the relevant material and hence I am uncertain as to whether this connection will in fact be available, or if it is being "cut off" to earmark this land for other potential development. Certainly, the provision of multiple access points can have a significant traffic benefit.

It is understood that the purpose of the new Glebe Island facility is to replace the existing Blackwattle Bay batching plant on Bridge Road, which is planned for closure in consideration of the likely redevelopment for the Bays Market District forecasted for 2019.

#### *Port Authority of NSW Multi-User Facility*

From the Port Authority of NSW website:

*"Port Authority of NSW has sought community feedback on a Review of Environmental Factors (REF) for a proposed multi-user facility at Glebe Island.*

*The multi-user facility would involve the construction and operation of a multi-user facility for the import, storage and distribution of dry bulk materials (e.g. sand and aggregates) at Glebe 1 and 2.*

*It would operate 24 hours per day, seven days per week as required.*

*The proposed facility would facilitate ship off-loading and include radial electrical stackers and an enclosed storage building designed to enable feeding material from the stackers through building slot/s into the storage bays.*

*The building slot/s would be closed when there is no ship-offloading. It would also feature internal truck receipt and delivery facilities to reduce noise emissions."*

Vehicle access would similarly be provided via James Craig Road.

#### *Other Projects of Relevance*

Other relevant projects that will impact upon traffic flow in the vicinity include the Westconnex M4-M5 link, Western Harbour Tunnel, The Bays Precinct and Sydney Metro West underground rail. The AECOM report includes discussion on each of these projects.

## **REVIEW OF TRAFFIC ANALYSIS – HANSON CONCRETE BATCHING PLANT**

The following commentary is provided on AECOM's Traffic Impact Assessment for the concrete batching plant:

### **EXISTING TRAFFIC VOLUMES (SECTION 3.7)**

Traffic volume data was collected on Thursday 21<sup>st</sup> September 2017 and Saturday 23<sup>rd</sup> September 2017. A key question to be asked is whether the Thursday coincided with an existing "busy day" for existing port operations on Glebe Island? The Saturday marks the beginning of school holidays, a period when traffic data should not be collected due to what are typically lower than usual volumes.

The existing performance of the following three intersections has been modelled in SIDRA (a tool that is commonly used by traffic engineers to assess intersection performance):

- Victoria Road / The Crescent
- The Crescent / James Craig Road
- The Crescent / City West Link Road

Without having access to the SIDRA model, it is not possible to review all input parameters and settings. The various configuration options can have a significant effect on the outputs. Examples of questions to be asked of AECOM include:

1. Has signal linking and offsets been accounted for in the network model?
2. What Peak Flow Factors have been adopted? Actual or default?
3. Have actual or default signal parameters been adopted?

From the information that is available, cycle and phase times have been set based on a sample of five cycles – this is reasonable although a more accurate assessment could have been undertaken from SCATS data for the entire hour. The lane configuration is for the most part accurate except for some lane lengths that are notably either too long or too short – this should be corrected.

I note that Section 3.7.4 of the report indicates that capacity has been manually adjusted for James Craig Road to reflect observed queueing that was lower than the SIDRA outputs. Were these observations carried out on the same day as the survey or is it possible that there were in fact higher queues?

I also hold reservations with the accuracy of the data collected by the chosen traffic survey firm. From my experience, this represents absolute lowest cost data collection that correspondingly comes with a higher risk of poor quality data. The quality of the base data is fundamental to an accurate assessment. At the very least, the data should be cross-checked against SCATS data (i.e. the data that is automatically recorded from the loops cut into the road pavement that exist at most signalised intersections).

Nonetheless, I have no major reason to dispute the existing conditions findings. This assessment indicates that the existing intersections are operating generally acceptably on the arterial roads, with the notable exception of the right turn from Victoria Street to The Crescent, which is very close to capacity (Degree of Saturation = 0.949) and operates at Level of Service F. The meaning of these terms is covered in Section 3.7.3 of the AECOM report. Essentially, DOS represents the ratio of traffic volume to capacity. A value of 1.0 indicates capacity has been reached, while values above 0.9 indicates poor performance. Level of Service is a qualitative rating from A to F in decreasing levels of performance.

The minor roads (James Craig Road and the north-south section of The Crescent) are operating at/above capacity, but this is an acceptable occurrence so long as the arterial roads are functioning to an acceptable level.

### TRIP GENERATION (SECTION 5.1)

Assessments of trip generation are contained within Section 5.1 of the AECOM Traffic Impact Assessment.

The following weekday on-road peak hour volumes have been estimated:

7:30am – 8:30am: 189 trips (98 trips in, 91 trips out)

4:30pm – 5:30pm: 98 trips (44 trips in, 54 trips out)

This assessment is based on an assumption of 67 employees; however, the JBA letter states that there would be 100 full-time equivalent employees. This discrepancy needs to be clarified as it affects the veracity of above figures.

Further, the above figures are based on those provided by the operator (Hanson) and therefore can only be taken in good faith. For a robust assessment, I recommend that existing traffic data be collected for the Blackwattle Bay and Pyrmont batching plants. This data can then be compared against the estimates for the Glebe Island plant as a “check”.

The brief provided to me by the Jacksons Landing Coalition Inc includes the following:

*Hanson: 120 dispatches per hour = 240 trips per hour = 5760 per day = 2,102,400 per annum, add to this the figures for other trucks (90 + 482 = 572 per day = 208,700 per annum*

This estimate does not align with that in the AECOM report. It also assumes that “peak traffic” is generated across every single hour of every single day for a year, which is unrealistic particularly as there will be days where there are no ships arriving. When assessing traffic impact, it is usual traffic engineering practice to consider the peak hour impacts on the road network.

I note that two trip generation scenarios have been considered by AECOM – one with cement delivered from Glebe Island and one with cement delivered from elsewhere. The latter option should be the only one considered as there is no guarantee of all cement being delivered from the existing Glebe Island facility.

### TRIP DISTRIBUTION (SECTION 5.2)

This assessment is based on 2011 Journey to Work data and expected origin and destination movements for trucks supplied by the operator (Hanson). No rationale has been provided for the latter (this should be requested), but on face value it does not appear unreasonable. However, consideration towards a sensitivity analysis may be warranted if the trip distribution is affected by the location of major constructions.

### FORECAST TRAFFIC FLOW (SECTION 5.3)

An assessment has been undertaken of existing conditions (Base Year 2018) and future conditions (Design Year of 2029). An annual growth factor of 1% has been applied to existing volumes, which is reasonable based on reviews of past traffic volumes in the vicinity available from RMS.

The future conditions assessment only accounts for traffic generated by the concrete batching plant. No allowance has been made for traffic generated by the Multi-User Facility, or for the impact of Westconnex and other projects. The report acknowledges this – however, it would have been a simple exercise to add in the anticipated MUF traffic volumes from the Review of Environmental Factors report, also prepared by AECOM.

### INTERSECTION ASSESSMENT (SECTION 5.4)

A SIDRA assessment has been undertaken of future conditions for each of the three intersections.

I generally concur with the findings, which can be summarised in simple terms as:

- Traffic conditions in Base Year 2018 do not change significantly with the addition of the concrete batching plant; and
- In Design Year 2029, general traffic growth will lead to significant performance deterioration that requires corrective action, with or without the addition of the concrete batching plant.

I also concur with the commentary in Section 6.1 of AECOM's report with respect to Westconnex, in that this project is likely to improve traffic conditions (although this will not be until some time *after* the concrete batching plant is constructed and operating).

On the basis that aggregates are delivered solely by ship, development of a concrete batching plant alone is unlikely to warrant any immediate road infrastructure upgrades, and the traffic can be adequately accommodated. However, in combination with a Multi-User Facility (see discussion that follows) and other future developments, it is possible that improved infrastructure will be required in the short-term.

Further, I concur with TfNSW's comment (letter dated 14<sup>th</sup> May 2018) that a detailed traffic assessment must be undertaken for the scenario whereby aggregates are delivered by road should a ship be unavailable.

### REVIEW OF TRAFFIC ANALYSIS – MULTI-USER FACILITY

The 2018 Review of Environmental Factors (REF) report prepared by AECOM provides no traffic analysis.

The only estimate of truck traffic volumes within the 2018 REF is that there would be no more than 20 truck and dogs per hour (refer Pg. 71). This equates to a maximum of 480 trucks per day.

Section 6.3 of the 2018 REF by AECOM points to the approved 2013 REF which approved up to 600 trucks per day – this is greater than the above figure. Subsequently, this equates to 1,200 daily movements (i.e. 600 trips to the site and 600 trips away from the site). I presume this figure of 1,200 movements is that referred to by the Jacksons Landing Coalition Inc in the brief.

The report states *“The operation of the Project is not anticipated to exceed the number of movements already approved under the current Part 5 approval issued to Port Authority. As such, no greater impacts to traffic or transport beyond those already assessed as acceptable are anticipated as a result of the Project.”*

However, Section 1.2 of the 2018 REF acknowledges that the 2013 REF “...did not include the installation/operation of a material storage and handling building. The 2013 REF also did not specifically provide allowance for sand and aggregate to be handled at the facility.” I therefore query why the number of trucks is now lower than it was in the 2013 REF. Rationale should be provided for the figure of 20 truck and dogs per hour – for example, why is this figure the same whether there are one or two stackers in operation? (refer Table 21). Would it change if there were two berthed vessels at the same time?

Section 1.2 then draws a comparison between the past number of shipping vessels, when Glebe Island operated as a car terminal, and the reduced number of shipping vessels under the 2013 REF. This is of limited relevance to the assessment of traffic impact, which must be derived from the specific nature of the proposed site activities in order to estimate traffic volumes generated on the road network. For example, there may have previously been more ships, but less traffic generated for each ship.

With respect to employee numbers and hence light vehicle (car) movements, Section 4.5 of the 2018 REF states there would be 5 to 8 operational staff. This level of staffing would generate minimal light vehicle movements. However, I query whether any trucks would be stored at the facility; if they are, then truck drivers would require parking. This must be accounted for within the estimated traffic generation.

I consider that a more detailed and thorough examination is required of the potential traffic generation characteristics of the MUF. Further, the traffic impacts must be assessed together with those of the concrete batching plant, and in consideration of other influencing factors (e.g. Westconnex, The Bays Precinct, etc).

This recommendation has also been made by TfNSW in their letter dated 14<sup>th</sup> May 2018.

## IMPACT ON REGIONAL TRAFFIC

### *Hanson Concrete Batching Plant*

The letter by JBA (dated 8<sup>th</sup> June 2017) states in Section 6.4:

*“Given that aggregates are currently delivered via road to the Hanson Blackwattle Bay and Hymix concrete batching plant in Pyrmont, this proposal will have a positive traffic impact on regional roads. In particular, the ship delivery of aggregates is estimated to reduce the number of trucks on the regional road network by up to 65,000 per annum.”*

This statement seemingly implies that all aggregate is currently delivered by truck. However, Section 1.0 of the same letter states that aggregate is currently delivered by ship to the Blackwattle Bay facility. This is contradictory and potentially misleading. If it is the case that all aggregate is currently delivered by ship, then there would be no reduction in regional traffic.

Clarification is therefore required as to how the figure of 65,000 vehicles has been derived. Potentially aggregate is being delivered by both ships and trucks.

### *Port Authority of NSW Multi-User Facility*

The letter from TfNSW to Mr Stephen Paul dated 6<sup>th</sup> April 2018 states that the MUF “...would remove approximately 140,000 long haul truck movements per annum from congested arterial roads around the city.”

An explanation of how this figure was derived should be requested from the Port Authority.

Regardless, whilst there would undoubtedly be some level of benefit elsewhere in Sydney and further afield as a result of reduced truck traffic, that is a separate matter. As discussed above, localised traffic impacts must be adequately assessed including the impact of additional truck traffic departing from the MUF once materials have been delivered by ship. I am not confident that the estimated figure of 20 truck and dog movements per hour is accurate

## SUMMARY

Based on my review of the relevant material available, I find that there is inadequate information to determine whether the proposed developments on Glebe Island would result in an acceptable level of traffic impact.

A more comprehensive Traffic Impact Assessment is necessary, and I have outlined a number of matters that I consider should be addressed / included within the assessment.

If there are any enquiries in relation to this letter, I can be contacted on the number below.

Yours sincerely,

A handwritten signature in blue ink that reads "Jarrod Wicks". The signature is written in a cursive style with a long horizontal line extending from the top of the "J".

Jarrod Wicks

Associate

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The logo for SALT, featuring the word "SALT" in white capital letters on a black background, with a small superscript "3" to the right. The logo is part of a larger graphic consisting of several overlapping triangles in shades of blue, teal, and orange.