

Reference: #N117280

25 May 2018

Multiplex Australasia Level 22, 135 King Street SYDNEY NSW 2000

Attention: Mr. Warren Hon

Dear Warren

RE: CASB WESTMEAD HOSPITAL EXTENDED HOURS OF CONSTRUCTION TRAFFIC AND TRANSPORT REVIEW

GTA Consultants (GTA) has completed a traffic and transport impact review in relation to an outof-hours work application for the state significant development approval (SSD/2016/7642). The application includes extending the hours of construction (Condition C1) for the Central Acute Services Building (CASB) at Westmead Hospital.

GTA prepared and submitted a Construction Pedestrian and Traffic Management Plan (CPTMP)¹ for the CASB main works package in November 2017 and this review should be read in conjunction with the CPTMP.

Proposed Out-of-Hours Work

The current approved hours of construction, including the delivery of materials to and from the subject site, are as follows:

- Monday to Friday: 7am to 6pm
- Saturday: 8am to 4pm

The extended hours of construction would result in the following:

- Monday to Friday: 6:30am to 7pm
- Saturday: (increase of half hour in AM period and one hour in PM period)
 Saturday: 7am to 4pm (increase of one hour in AM period).

Traffic Assessment

Approved Hours of Construction Traffic Volumes

The peak construction vehicle volumes as outlined in the CPTMP (GTA, November 2017) are summarised in Table 1. It is noted that the CASB & Innovation Centre Works Zones are accessed via Mons Road, Dragonfly Drive and Redbank Road and the Forecourt Works Zone is accessed via Hawkesbury Road.

¹ Westmead Redevelopment - Central Acute Services Building Main Works, Construction Pedestrian and Traffic Management Plan GTA Consultants, 13 November 2017



Phase	Works Zone	Vehicles per day	Vehicles per hour (peak)	Vehicle Type
Excavation and Demolition	CASB & Innovation Centre	& Innovation 52 Centre 52		Truck and Dog Semi-trailers Small Rigid Vehicles
	CASB & Innovation Centre 52 Forecourt Negligible CASB & Innovation Centre 122 to 166	Negligible	n/a	n/a
Structure (peak)	CASB & Innovation Centre	122 to 166	15 to 21	Concrete Trucks Semi-trailers
	Forecourt	22 to 44	3 to 6	Rigid Trucks
Fit-out	CASB & Innovation Centre	49	5	Concrete Trucks Semi-trailers
	Forecourt 22		2	Rigid Vehicles

Table 1: Peak Construction Vehicle Volumes

The peak hourly volumes are anticipated to occur during the concrete pour stages of the works in the Structure Phase. Based on Table 1, peak construction vehicle volumes would range between 15-21 vehicles (30-42 movements) per hour. All demolition and construction vehicles will be contained wholly within the site and vehicles will enter the site before stopping.

Extended Hours of Construction Traffic Volumes

It is understood that Multiplex intends to use the extended hours of construction for the following activities:

- Site preparation, safety and set-up during:
 - Weekday AM period
 - Saturday AM period within Forecourt Works Zones.
 - Structural Works during:

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- Weekday PM period
- Saturday AM period within CASB (podium and tower) and Innovation Centre Works Zones.

During site preparation works, up to two concrete trucks and/or concrete pumps are expected to be generated by the respective works zones (two one-way movements to each works zones) in preparation for concrete pours respectively beginning at 7am and 8am on Weekdays and Saturdays.

During the weekday extended PM period, it is expected that no more than four concrete trucks will be generated by the site (four one-way movements from the site) due to the time sensitive nature of concrete pours.

During structural works within the Saturday extended AM period, the CASB (podium and tower) and Innovation Centre Works Zones are expected to generate a maximum of 50 per cent of the peak hourly volume assessed in the CPTMP (see Table 1) or 10 vehicles (20 movements), including concrete trucks and semi-trailers, during peak construction activity.

The estimated number of construction vehicles per extended period and works zone during peak construction are detailed in Table 2. It is noted that in addition to the volumes outlined in Table 2, some additional construction traffic may access the site for the delivery of specific materials during both extended periods.



Works Zone	Monday	to Friday	Saturday		
	AM PeriodPM PeriodAM Period6:30am to 7am6pm to 7pm7am to 8am		AM Period 7am to 8am	Works	
Forecourt	2 concrete trucks (2 movements)	N/A	2 concrete trucks (2 movements)	Preparation, safety, setup and inspections	
TORCCOURT	N/A	2 concrete trucks (2 movements)	N/A	Structural Works	
CASB & Innovation Centre	2 concrete trucks (2 movements)	N/A	N/A	Preparation, safety, setup and inspections	
	N/A	2 concrete trucks (2 movements)	10 concrete trucks and semi-trailers ^[1] (20 movements)	Structural Works	
Total	4 concrete trucks (4 movements)	4 concrete trucks (4 movements)	12 construction vehicles (22 movements)		

Table 2: Extended Hours of Construction Vehicle Volumes

[1] Refer to Table 1 CASB & Innovation Centre Structural Works Peak Traffic Volumes

As shown in Table 2, the site is expected to generate four concrete-related truck movements during peak construction in the weekday extended AM and PM periods and up to 22 truck movements in the Saturday extended period.

Traffic Impact

With consideration for the above, the overall construction vehicle volumes during the weekday extended AM and PM periods represent a minor increase to existing traffic volumes on the road network. The overall construction vehicle volumes during the Saturday extended AM period is expected to be similar to the construction vehicle volumes during approved hours of construction (8am to 4pm) detailed in Table 1Table 1, noting that relatively low hourly heavy vehicle volumes would be expected at the start of a typical work day. Furthermore, the weekday and Saturday extended periods are outside of typical road network peak periods, when traffic volumes are comparatively low. Therefore, the traffic impact of additional construction vehicle activity associated with extending the hours of construction is considered minimal.

Notwithstanding, it is recommended that construction vehicle activity be efficiently managed such that the overall construction vehicle activity does not significantly impact the internal road network operations for Westmead Hospital. This includes using the construction vehicle staging area near Mons Road to avoid construction vehicle queuing and associated delays within the internal road network.

Transport Impact

No additional impacts on public transport, walking or cycling activity is expected, beyond that documented in the CPTMP (GTA, November 2017).

Noise Impact

It is noted that the addition of trucks on the road network and on-site construction activities, such as the loading and unloading of materials and finalisation of concrete pours, during the extended periods may result in potential noise impacts. Such impacts have been assessed and documented



in the Extended Hours Construction Noise Assessment prepared by Acoustic Logic dated 17 April 2018 and included in Attachment 1.

Conclusion

The out-of-hours work application represents a minor change to the approved hours of construction for the CASB at Westmead Hospital. The extended hours of construction are considered appropriate from a traffic and transport perspective as the associated construction activities are expected to generate low heavy vehicle volumes and the extended hours of construction are outside of typical road network peak periods. No additional impacts on public transport, walking or cycling activity is expected, beyond that documented in the CPTMP (GTA, November 2017).

I trust this provides the information you require. Naturally, should you have any questions or require any further information, please do not hesitate to contact me in our Sydney office on (02) 8448 1800.

Yours sincerely

GTA CONSULTANTS

Jaynard.

Brett Maynard Director

encl. Attachment 1: Extended Hours Construction Noise Assessment



Attachment 1

Extended Hours Construction Noise Assessment

MANAGING DIRECTORS MATTHEW PALAVIDIS VICTOR FATTORETTO

DIRECTORS MATTHEW SHIELDS BEN WHITE



Westmead Hospital Central Acute Services Building

Extended Hours Construction Noise Assessment

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1 INTRODUCTION

This report presents the assessment of noise impacts associated with the proposed extension of construction hours for the Westmead Centre for Acute Services Building.

This report addresses noise impacts associated with works during the evening period and the formulation of acoustic treatments to ensure that noise emissions comply with the management levels outlined in the Environment Protection Authority 'Interim Construction Noise Guideline' (ICNG).

The principal objective of this study is to undertake an evaluation of work to be performed during the extended hours period and forecast the potential impact of noise and vibration. The principal issues, which will be addressed in this report, are:

- Identification of the noise and vibration standards which will be applicable to this project;
- Identification of all potentially affected sensitive receivers;
- Proposed works during the extended hours period;
- Formulation of construction noise criteria during the extended hours period;
- Formulation of strategies for construction noise emissions to comply with the recognised standards; and
- The establishment of direct communication networks between affected groups namely the main works contractor (Multiplex), Westmead Hospital stakeholders and Acoustic Logic Consultancy Pty Ltd.

This report has been prepared with consideration to the following documents:

- Development Consent for SSD 7642.
- Australian Standard AS 2436-2010 "Guide to Noise Control on Construction, Maintenance and Demolition Sites"
- NSW Environmental Protection Authority (EPA) Interim Construction Noise Guideline (ICNG)

2 SITE LOCATION

The site is located centrally to the Westmead Hospital precinct and is surrounded by a mixture of residential, short-term accommodation, childcare and healthcare facilities.

Noise sensitive development in the vicinity of the site are as follows:

- Receiver 1: Multi-storey residential dwellings to the south-east of the site across Hawkesbury Road. These residents have windows on the upper levels overlooking the site;
- Receiver 2: Three storey Westmead Hospital building to the immediate west of the site. This building has primarily office and consulting room spaces on the ground and first floors, and surgery theatre and wards on the top floor. This receiver has fixed, inoperable glazing
- Receiver 3: Casuarina Lodge provides short term accommodation for patients and their families located approximately 90m to the north-west of the site.
- Receiver 4: Brain Injury Rehabilitation Unit located to the north of the site. This is a single storey building with fixed, inoperable glazing.
- Receiver 5: Westmead Childcare Centre to the north of the site. This is a single storey building.
- Receiver 6: Westmead Children's Hospital to the immediate east of the site. This building is 3-4 storeys high with fixed, inoperable glazing.
- Receiver 7: Kids Research Institute (KRI) located to the immediate south-east of the site. This is a multi-storey building with fixed, inoperable glazing.
- Receiver 8: Children's Medical Research Institute (CRMI) located to the immediate south-east of the site. This is a multi-storey building with fixed, inoperable glazing.
- Receiver 9: Westmead Millennium Institute for Medical Research (WMI) to the immediate south-east of the site. They are up to seven storey building with fixed, inoperable glazing.

See aerial photo, below in figure 1.

<u>LEGEND</u>



Figure 1: Site Location and Sensitive Receivers

3 BACKGROUND NOISE LEVELS

Noise measurements have previously been conducted at the site to establish the representative background noise levels for residential receivers and for select internal spatial uses.

3.1.1 Residential Receivers

Residential receivers potentially impacted by construction works during the extended hours period are located along Hawkesbury Road. Noise monitoring was conducted by Acoustic Studio as part of the schematic design of the CASB development. Ambient noise levels are provided in the "CASB – Acoustic Schematic Design Report" dated 7 December 2016.

Location	Time	Rating Background Noise Level, dB(A) L ₉₀	Ambient Noise Levels, dB(A) L _{eq}
Hawkesbury Road Frontage	Day	51	61
	Evening	50	59
	Night	48	57

Table 1 – Ambient Noise Levels

3.1.2 Hospital Receivers

Attended background noise measurements have been carried out within Westmead Research Institute on 15th February 2016. Noise measurements were obtained using a Norsonic type SA140 Sound Analyser. The analyser was set to fast response and calibrated before and after the measurements using a Norsonics Sound Calibrator type 1251. No significant drift was noted.

Detailed measurement locations and measured background noise levels are provided below.

Table 2 – Measured Background Noise Level within WMI Building

Location	Measured Background Noise Levels, dB(A) L ₉₀
Level 2 EEG Lab	25
Level 2 Interview Room (C2.12)	25
Level 7 Private Office (7.03)	25

4 ACOUSTIC REQUIREMENTS

4.1 REQUIREMENT FOR CONSTRUCTION WORKS DURING EXTENDED PERIOD

This assessment has been undertaken to address potential noise impacts associated with construction works outside of normal construction hours. Construction works may be required to be extended due to unforeseen delays associated with structural works. This could result in the following activities occurring during the extended construction period:

- Finalisation of concrete pours,
- Concrete truck delivery,
- Concrete pumping,
- Slab finishing works using vibrators and/or helicopter floats.

4.2 APPROVED CONSTRUCTION HOURS

Construction hours have been provided in Condition C1 of the SSD development consent and are as follows.

Hours of Work

C1.

- a) The hours of construction, including the delivery of materials to and from the site, shall be restricted as follows:
 - 1. Between 7am and 6pm, Mondays to Fridays inclusive.
 - 2. Between 8am and 4pm, Saturdays; and
 - 3. No work on Sundays and public holidays.
- b) Works may be undertaken outside these hours where:
 - 1. The delivery of materials which is required outside these hours as requested by Police or other authorities, or
 - 2. It is required in an emergency to avoid the loss of lives, damage to property and/or to prevent environmental harm or
 - 3. Variation is approved in advance in writing by the Secretary or nominee.

This assessment has been prepared to support the application for a variation in construction hours from the Secretary or nominee.

4.3 **PROPOSED CONSTRUCTION HOURS**

It is proposed to extend the construction hours to encompass the following periods:

- 1. Between 6:30am and 7pm, Mondays to Fridays inclusive.
- 2. Between 7am and 4pm, Saturdays; and
- 3. No work on Sundays and public holidays.

4.4 CONSTRUCTION NOISE AND VIBRATION CRITERIA

In accordance with Condition C8 of the development consent, the development must be constructed with the aim of achieving the construction noise management levels detailed in the *Interim Construction Noise Guideline* (Department of Environment and Climate Change, 2009).

Noise and vibration impacts from constructions works are to be assessed in accordance with the:

- NSW Environmental Protection Authority (EPA) formerly DECC Interim Construction Noise Guideline (ICNG);
- German Standard DIN 4150 Part 3 Structural Vibration in Buildings. Effects on Structures; and
- British Standard BS 6472 Guide to Evaluate Human Exposure to Vibration in Buildings (1hz to 80Hz).

4.5 EPA INTERIM CONSTRUCTION NOISE GUIDELINE

Noise emanating from the construction site has been assessed in accordance with the recommendations of the EPA *Interim Construction Noise Guideline*.

The guideline reflects on feasible and reasonable mitigation strategies, management controls and public liaising in the effort to reach realistic compromises between construction sites and potential noise affected receivers.

4.5.1 Acoustic Requirements for Residential Receivers

Residential dwellings are discussed in Section 4.1.1 of the ICNG. Recommended construction hours and respective construction noise management levels are presented in the following Table.

"Noise affected" level. Where construction noise is predicted to exceed the "noise affected" level at a nearby residence, the proponent should take reasonable/feasible work practices to ensure compliance with the "noise affected level".

Receiver	Time of Day	Management level, L _{Aeq} (15min)
Residential	Recommended standard hours:	Noise affected
	Monday to Friday 7am to 6pm	RBL + 10dB
	Saturday 8am to 1pm	
	No work on Sundays or public holidays	
	Outside recommended	Noise affected
	standard hours	RBL + 5dB

Table 3 - Construction Noise Management Levels

4.5.2 Acoustic Requirements for Non-Residential Receivers

Section 4.1.2 of the ICNG provides guidance on construction noise management levels for sensitive uses other than residential dwellings. Given the proximity to surrounding healthcare buildings, consideration should be given to individual uses within the hospital.

Hospital buildings surrounding the site incorporate many sensitive uses including:

- WMI Building: Animal's house, sleep lab, brain dynamics, consulting rooms, microscopes MISC, etc.
- KRI Building: Animals' house, administration office, quite room, meeting room, etc.
- CMRI building: Animals' house, microscope room, laboratory, private office, etc.
- Hospital: Wards, operation theatres, etc.
- Childcare Indoor and Outdoor areas,
- Brain Injury Rehabilitation Unit.

Each of these uses should be considered for potential noise and vibration impacts.

4.5.3 Animal Housing

The following noise criteria are recommended based on requirements of AS2107-2000 and published document "Notes on the acoustical design of animal holding rooms within medical research facilities" Zoontjens, L. (2012).

Table 4 – Recommended Noise Criteria of Animal House

Space	Recommended Noise Criteria
Within animal housing	50 dB(A)L _{eq} ;
	65 dB(A)L _{Max} ,F

4.5.4 Remaining Areas

With regard to remaining internal hospital areas, the ICNG recommends the *'maximum 'internal noise levels in AS2107 Acoustics- Recommended design sound levels and reverberation times for building interiors may assist in determining relevant noise levels (Standard Australia 2000)*

The following noise management levels for construction activities at sensitive land uses are based on requirements of the least of below:

- Requirements of AS2107-2000 (maximum internal noise levels).
- Background noise +10 dB(A)

Based on noise measurements conducted at the site by ALC during the pre-tender phase of the project, the following construction noise management targets are established.

Building	Space	Management Level dB(A) L _{eq} , 15 min
WMI	Level 2 EEG Lab, Sleep Lab, Interview Rooms, Private Offices	Not expected to be in use
	Level 2 Image Facility	Not expected to be in use
	Level 1 Animal House	50dB(A)L _{eq} , 65 dB(A)L _{Max}
KRI	Level 1 Animal House	50dB(A)L _{eq} , 65 dB(A)L _{Max}
	Level 2 General Office	Not expected to be in use
	Level 3 Quite Room	Not expected to be in use
	Level 3 Meeting Room (when in use)	Not expected to be in use
CRMI	Level 0 Animal House	50dB(A)L _{eq} , 65 dB(A)L _{Max}
	Level 2 Microscope Room	Not expected to be in use
	Level 6 Lab	Not expected to be in use
	Level 4 private office 405	Not expected to be in use
Hospital	Wards	45
	Operational Theatre	45
	Consulting Room	45
Brain Injury Rehabilitation Unit	Brain Dynamics	35
Childcare	Childcare Indoor	Not expected to be in use
	Childcare Outdoor	

Table 5 – Construction Noise Management Levels

Note: * use BG +10 dB(A).

Noise predictions have been undertaken for the likely structural works to be completed into the evening period.

The animal housing is located within a concrete shell and would not be impacted by airborne noise from the proposed structural finishing works.

5 ASSESSMENT OF CONSTRUCTION WORKS

5.1 PROPOSED CONSTRUCTION ACTIVITIES

Construction activities to be undertaken during the extended hours period is that associated with structural works. This will include concrete pumps, trucks, vibrators and helicopter floats.

Between 6:30am and 7:00am, Monday to Friday, works will be related to site administration including preparation, safety, setup and inspections. No construction equipment is to be used during this time.

Equipment /Process	Sound Power Level - dB(A)
Concrete Pump	108
Concrete Truck	103
Concrete Vibrator	108
Helicopter Floats	100

Table 6 - Sound Power Levels of the Proposed Equipment

5.2 LOCATION OF CONSTRUCTION WORKS

Construction works could occur throughout the site in finishing structural elements (i.e. slabs). Figure 2 shows where typical works could be undertaken during the evening period which includes:

- Concrete pumping within pumping area,
- Concrete pumping from Hawkesbury Road for the forecourt,
- Helicopter floats and vibrators on the floor slabs of the CASB main building, innovation centre and forecourt.

Predictions are undertaken from 1m inside the slab edge and with no screening (unless otherwise stated) to receiver locations which will represent the worst-case noise level.







Construction Activity	Appliance SWL	Location of Works	Receiver	Distance to Receiver	Predicted External Noise Level, dB(A) L _{eq}	Predicted Internal Noise Leve, dB(A) L _{eq}	Noise Criteria, dB(A) L _{eq}	Exceedance
Concrete Pumping	108	Pumping Area	Children's Hospital	66	64	34	45	-11
Helicopter Float	100	CASB	West Building	16	68	38	45	-7
			Children's Hospital	72	55	25	45	-20
		Innovation	West Building	14	69	39	45	-6
		Centre	Children's Hospital	95	52	22	45	-23
		Forecourt	West Building	14	69	39	45	-6
			Children's Hospital	165	48	18	45	-27
Concrete	108	CASB	West Building	16	76	46	45	1
Vibrators			Children's Hospital	72	63	33	45	-12
		Innovation Centre	West Building	14	77	47	45	2
			Children's Hospital	95	60	30	45	-15
		Forecourt	West Building	14	77	47	45	2
			Children's Hospital	165	56	26	45	-19

Table 7 – Predicted Construction Noise Levels (Hospital Receivers)

Construction Activity	Appliance SWL	Location of Works	Receiver	Distance to Receiver	Predicted External Noise Level, dB(A) L _{eq}	Noise Criteria, dB(A) L _{eq} (Evening)	Exceedance
Concrete Pumping	108	Hawkesbury Road	Hawkesbury Road Residences	26	72	55	17
Helicopter Float	100	CASB		134	49	55	-6
		Innovation Centre		106	51	55	-4
		Forecourt		26	64	55	9
Concrete Vibrators	108	CASB		134	57	55	2
		Innovation Centre		106	59	55	4
		Forecourt		26	72	55	17

Table 8 – Predicted Construction Noise Levels (Residential Receivers)

5.3 DISCUSSION

5.3.1 CASB Works

With regard to predicted noise levels for structural finishing works on the CASB we note:

- Structural finishing works will typically comply with the established hospital internal noise criteria.
- Minor exceedances of 1dB(A) may occur with concrete vibrator works right at the slab edge, however this difference will be generally imperceptible.
- Once the structure is above surrounding hospital buildings, significantly less noise impacts are expected.
- Minor exceedances up to 2 dB of the "background + 5dB(A)" noise management level for residential dwellings across Hawkesbury Road may occur for concrete vibrator works at the very southern-most areas of the CASB.

This difference will be generally imperceptible and will only occur where there isn't some degree of screening to structural works. It is noted that as the CASB increases in height, screening will be provided by the slab edge to receivers along Hawkesbury Road.

5.3.2 Innovation Centre Works

With regard to predicted noise levels for the innovation centre we note:

- Structural finishing works will typically comply with the established hospital internal noise criteria.
- Minor exceedances of 2dB(A) may occur with concrete vibrator works right at the slab edge, however this difference will be generally imperceptible.
- Once the structure is above surrounding hospital buildings, significantly less noise impacts are expected.
- Exceedances up to 4 dB of the "background + 5dB(A)" noise management level for residential dwellings across Hawkesbury Road may occur for concrete vibrator works at the very southern-most areas of the innovation centre. In this regard we note:
 - Given that works will only likely occur when unforeseen circumstances extend structural works into the evening period, in-situ acoustic treatments such as acoustic screens may not be plausible. In this regard, acoustic treatments to mitigate noise from vibrators may not be practical.
 - A significant portion of the innovation building will be screened by the WMI structure to residential dwellings.
 - \circ The ambient noise levels along Hawkesbury Road as presented in Section 3 of this report are in the order of 59dB(A) L_{eq}. In this regard, noise from the concrete vibrator in worst-case locations will be generally no greater than the existing ambient noise levels.

Based on the above, exceedances of the construction noise management level at residential receivers from the worst-case vibrator works will be acceptable.

5.3.3 Forecourt Area Works

With regard to predicted noise levels for works conducted on the forecourt area:

- Structural finishing works will typically comply with the established hospital internal noise criteria. Minor exceedances of 2dB(A) may occur with concrete vibrator works right at the northern edge of the forecourt, however this difference will be generally imperceptible.
- There are some significant exceedances of the "background + 5dB(A)" noise management level for residential dwellings across Hawkesbury Road. These exceedances include:
 - 9dB(A) exceedance at residential receivers from helicopter floats at the southern edge of the forecourt.
 - 17dB(A) exceedance at residential receivers from concrete vibrators and concrete pumps at the southern edge of the forecourt.
- In this regard we note:
 - The works will only likely occur when unforeseen circumstances extend structural works, in-situ acoustic treatments such as acoustic screens may not be plausible. In this regard, acoustic treatments to mitigate noise from vibrators may not be practical.
 - The ambient noise levels along Hawkesbury Road as presented in Section 3 of this report are in the order of 59dB(A) L_{eq}. In this regard, noise from the helicopter floats will be marginally greater than the ambient noise environment. It is noted however that the concrete vibrator works and concrete pumping will be substantially greater than the ambient noise level.
 - Residential receivers are expected to be typically getting home at this period of the evening and would not be likely impacted severely by an extension of the hours in the event of finishing works from a delayed concrete pour.
 - Impacts from an early concrete pour between 7am-8am on a Saturday would likely impact the residences more significantly as residents may choose to use this time to sleep in.

Given the above, the following would be recommended to minimise noise impact on residential receiver locations.

- Construction on the forecourt may continue up to 7pm for structural finishing works.
- No loud structural works are to be conducted in the forecourt area between 7am-8am on Saturdays.
- Preparation works between 7am-8am on Saturdays would be acoustically acceptable. These works would include site administration including preparation, safety, setup and inspections. No construction equipment is to be used during this time.

6 RECOMMENDATIONS

There are no additional acoustic recommendations for structural works to be conducted during the evening period. Construction works during the extended hours period are to follow the recommendations of the existing construction noise and vibration management plan developed for the site.

Construction works during the extended hours period may be undertaken as per the following.

Work Zone	Monday to Friday	Saturday	Works
All	6:30am-7:00am	N/A	Preparation, safety, setup and inspections
CASB	7am-7pm	7am-4pm	Structural works
Innovation Centre	7am-7pm	7am-4pm	Structural works
Forecourt Area	N/A	7am-8am	Preparation, safety, setup and inspections
	7am-7pm	8am-4pm	Structural works

Table 9 – Proposed Recommended Extended Hours

7 CONCLUSION

This report presents the assessment of construction noise impacts associated with the proposed extension of construction hours for structural works to be undertaken as part of the Centre for Acute Services Building development, Westmead.

Predicted noise levels from the proposed construction processes will generally comply with the recommended noise management levels of the NSW Interim Construction Noise Guideline based on general structural finishing works which may occur during the evening period due to potential unforeseeable delays.

The recommendations of the existing construction noise and vibration management plan prepared for the site will still apply during the extended period to ensure noise impacts from the works are minimised as practically possible.

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,

Gh

James Small Acoustic Logic Consultancy