Georgiou

Windsor Bridge Replacement Project

Out-of-Hours Works Noise Assessment

Traffic Signal Upgrade and Concreting Works

Out-of-Hours-Work (OOHW) Assessment No. 032

If the following assessment of the OOHW activity is calculated to be over the NML (+5dBA of the RBL) then signoff required by the following:

Position	
Georgiou Project Manager	[redacted]
RMS Environmental Representative Review	
RMS Project Manager Review	
Independent Environmental Representative (ER)	

Glossary/Abbreviations

GLOSSARY/ABBREVIATIONS	
OOHW	Out of Hours Work
SPL	The sound pressure level is the noise at a given distance from plant or equipment, and the sound pressure level can change depending on the distance from the equipment and also the orientation of the equipment.
SWL	The sound power level is the intrinsic noise output of plant or equipment, and does not depend on distance or orientation of the machine
TCS	Traffic Control System
ITS	Intelligent Control System
TMC	Transport Management Centre
ROL	Road Occupancy Licence
NML	Noise Management Level
Noticeable	5 to 10 dBA above rating background level (RBL)
Clearly audible	10 to 20 dBA above RBL
Moderately intrusive	20 to 30 dBA above RBL
Highly intrusive	>30 dBA above RBL
Sleep disturbance	Sleep disturbance is LAmax of 65 dBA (at the façade of a property)
RBL	Rating Background Level
CNVMP	Construction Noise and Vibration Management Plan
NCA	Noise Catchment Area
DECCW	Department of Environment Climate Change and Water
RNP	Road Noise Policy

Out-of-Hours-Work (OOHW) Assessment No. 032

PART 1 – Initial OOHW Request Details	
Location of OOHW:	Macquarie Street – Bridge Street intersection
Proposed OOHW times:	8pm – 5am, 5 nights per week Monday – Friday, for two consecutive weeks
Date of proposed OOHW:	Mon 1st June – Fri 12th June (excl. Saturday and Sunday nights) (Contingency Mon 15th June – Fri 26th June if adverse weather arises)
Name of OOHW requestor	[redacted]
Name of Assessor	[redacted]
Nearest sensitive receiver:	26 Bridge Street
Supervisor	[redacted]

Description and justification of OOHW (include plant/equipment used):

This OOHW request is for the installation and reconfiguration of the traffic light infrastructure and concreting works in the intersection of Bridge Street and Macquarie Street which will finalise the intersection in preparation for the opening of the new Windsor Bridge.

The works will involve the following.

- Removal of pavement
- Trenching and installation of conduits
- Upgrade of electrical pits
- Installation of traffic signal infrastructure such as electrical boxes and cables
- Preparation of subgrade
- Removal of pram ramps and part of the median
- Concreting of new footpath and pram ramps and median
- Reinstating any pavement removed during installation works

Due to the close proximity of the work zone to the live traffic, works cannot be done during standard construction hours, and will need to be completed during night shifts.

There are currently 10 shifts required to complete the civil works. By completing the works in 2 night shifts per week, taking in account the respite period between the shifts for this activity and other night work occurring on the project, the works would take between 2 to 3 months to complete.

To reduce the duration of the noise, and safety impacts to sensitive receivers, pedestrians, workers and road users, the works are to be completed over 2 consecutive weeks of 5 nights per week, Monday to Friday. There are a following 8 shifts to finish the entire installation of the traffic lights, which will be applied for and completed at a later date.

Works will be occurring in the footpath mainly, and a 2 week work period reduces the time the public are required to walk over trenches covered by temporary footpath plates (pedestrian boards). These boards have a tendency to move or slip over time and require constant maintenance. Although covered by plates, the trench is also open and requires inspection for such things as wall collapse, especially being so close to the roadway. By not having extended periods between shifts these risks can be better managed.

This also applies to conducting works across roadways, especially given the amount of heavy vehicle traffic in the area. To avoid this, the works will need to be reinstated by the second night. This constant reinstatement can cause road pavements to degrade prematurely. A shorter work period reduces the chance of pot holes and other pavement hazards occurring.

Intermittent road occupations also have a tendency to confuse and intimidate local traffic in the area. Continuous nightshifts should allow for local traffic to acclimatise to the new conditions with enough warning. This will reduce the risk of incidents when conducting works in an area during occupation. Management of traffic also becomes easier for traffic controllers, who are also placed at heightened risk by intermittent use of road occupation during night shifts.

Lastly, once the civil works are finished, there is increased risk of copper theft. When working in around highly trafficked areas where the works generates untoward attention and can lead to increased chance of theft. Although at the end of each shift the works are made safe and protected from the public, the piece meal works further introduce a greater window for theft. Given that some of the cables that are terminated will also be live there is increased exposure to harm if thefts were to be attempted.

An activity plan for the OOHW is provided below in order to better understand the scheduling of the works.

Out-of-Hours-Work (OOHW) Assessment No. 032

Night	Planned Activity and Plant to be Used
Nights 1 – 4 (Mon to Thu)	Activities - removal of pavement, installation of conduits, and upgrade of pits. Plant - road saw (Night 1 only), 5T excavator, vacuum truck, tipper trucks and traffic control
Nights 5 – 6 (Fri & Mon)	Activities - installation of Traffic Signal hardware, cable and loops (TCS cabinet, cabling and terminations). Plant - tipper truck, small hand tools, traffic control
Nights 7 – 10 (Tue to Fri)	Activities - prepare subgrade, remove pram ramps and median bull nose. Concrete new footpath and pram ramps and bullnose. Reinstate any pavement removed during installation works. Plant - road saw (Night 7 only), 5T excavator, tipper truck, traffic control concrete truck

Based on the plant to be used, the *RMS Construction Noise Estimator* default scenario *Utilities, property and service adjustment* is representative of the works to be conducted and will be used in this assessment. The plant used in this scenario is detailed below in Section 2.1.

1.1 Additional Requirements for the works (tick all that apply)

Traffic control ☒	Traffic control supervisor ☒	Lighting (if required direct away from receivers) ☒	Other (list) ☐

1.2 Emergency Planning

Who in the work team is currently senior first aid qualified?	[redacted]
Where will the first aid kit be located?	Site offices and site vehicles
Communication to contact assistance in an emergency?	Mobile phones available, supervisor to have mobile phone if staff do not, 2 way radio

PART 2 – Assessment

2.1 Noise Assessment Method

The *RMS Construction Noise Estimator – Estimator (Scenario*) was used to determine the most impacted residential receivers as a result of the noise levels from the works. The default scenario *Utilities, property and service adjustment* was used as a representative scenario for this OOHW.

The plant used in the *Utilities, property and service adjustment* scenario and their relative SWL and SPL is detailed below

NOTE: While all these plant have been modelled as part of this noise assessment, the actual impact to receivers is expected to be less, as not all plant listed will be used, nor will they be used at the same time this is reflected in the proposed work plan in Section 1. Additionally, all noisy works will be completed prior to midnight.

Plant/ Equipment	LAeq SWL (dBA)	LAeq at 7m (dBA)
Excavator (tracked) 35t	110	85
Dump truck	110	85
Franna crane 20t	98	73
Pneumatic hammer	113	88
Concrete saw	118	93
Vacuum truck	109	84
Backhoe	111	86
Power generator	103	78

2.2 Noise Impact Statement

Table2.2 below details the following aspects:

Noise Management Levels: LAeq(15minute) noise management levels [dB(A)] for the relevant noise catchment/receiver is summarised in the table below. This information has been sourced from the CNVMP. The noise management level (NML) for OOHW is equal to the back ground noise level (RBL) +5dBA.

The residential receivers listed below are those nearest to the works and therefore subject to the greatest impacts. Noise impacts reduce as distance from noise source increases, **therefore the receivers assessed are considered worst case scenarios**.

Note: As per NVMP the NML for R3 is used for receivers R17 and U4 –U8. NML for R4 is used for R11 – R13 and U12 – U19.

Noise Impacts on Receivers: The table below also details the predicted total SPL (LAeq 15 minute (dBA)) as determined by the *RMS Construction Noise Estimator – Estimator (Scenario*) and the relative predicted levels above the different NML's. The default scenario *was* used as a representative scenario for this OOHW, to predict the most impacted residential receivers as a result of the noise levels from the works.

Note: The impacts discussed Table 2.2 (dBA above NML) are in relation to the OOHW Period 2 to ensure a worst-case, conservative approach is taken in this assessment.

Table 2.2 Noise Management Levels and Predicted Noise Levels.

ID	Receiver Location	Noise Management Levels			RBL*	Predicted Noise Impacts Assessment			
		Daytime (7am–6pm)	OOHW Period 1 (6pm–10pm)	OOHW Period 2 (10pm–7am)		Distance to Works (m)	Total SPL LAeq (15 minute) (dBA)	dBA above RBL	dBA above NML
U5	20 Bridge Street	72	61	46	41	40	72	31	36
U7	26 Bridge Street	72	61	46	41	10	82	41	32
U8	28 Bridge Street	72	61	46	41	20	78	37	25
U4	3/52 George Street	72	61	46	41	45	71	30	22
U6	2/52 George Street	72	61	46	41	70	68	27	22
R17	66 George Street	72	61	46	41	70	68	27	21
U9	10 Arndell Close	55	47	32	27	120	53	26	21
U10	12 Arndell Close	55	47	32	27	115	53	26	20
U11d	14 Arndell Close	55	47	32	27	130	52	25	22
U11c	14a Arndell Close	55	47	32	27	110	54	27	24
U11b	14b Arndell Close	55	47	32	27	90	56	29	26
U11a	14c Arndell Close	55	47	32	27	70	58	31	18
R11	45 George Street	55	47	32	27	150	50	23	17
R12	43 George Street	55	47	32	27	165	49	22	20
U1	51 George Street	55	47	32	27	125	52	25	21
U12	16 Arndell Close	55	47	32	27	120	53	26	24
U13	49 Court Street	55	47	32	27	90	56	29	22
U14	47 Court Street	55	47	32	27	110	54	27	20
U15	45 Court Street	55	47	32	27	130	52	25	19
U16	43 Court Street	55	47	32	27	145	51	24	18
U17	41 Court Street	55	47	32	27	160	50	23	23
U18	46 Court Street	55	47	32	27	95	55	28	22
U19	44 Court Street	55	47	32	27	105	54	27	21

U2	48 George Street	55	47	32	27	115	53	26	20
U3	50 George Street	55	47	32	27	130	52	25	36

*RBL – Rating Background Level (dBA)

*R – Receivers as identified in the NVMP

*U – Receivers which have not been identified in the NVMP

- dBA which is greater than 30dBA > RBL ('Highly Intrusive' NCA1) (see Figures 1 & 2)

- dBA which is between 20 – 30dBA > RBL ('Moderately Intrusive' NCA2) (see Figures 1 & 2)

2.3 Risk assessment

Acoustic assessment completed by the ESR to determine if works are above the Noise Management Level (RBL +5dBA) at closest receiver	☐ below NML (RBL +5dBA) ☒ Above NML (RBL +5dBA)

If above NML identify the out of hours works period:

	Standard Hours	OOHW Period 1		OOHW Period 2	
Weekdays	No OOHW application required	1800 - 2200	☒	2200 - 0700	☒
Saturdays		0700 - 0800 1300 - 2200	☐	2200 - 0800	☐
Sundays and public holidays		0800 - 1800	☐	1800 - 0700	☐

If above NML identify the out of hours works category:

Low Risk Category ☐	Medium Risk ☐	High Risk ☒
• No sleep disturbance • 1800 – 2200 weekdays • 1300 – 2200 Saturdays • 0800 – 1800 Sunday & Public Holiday • 1 or 2 occurrences • No impulsive or tonal noise vibration	• Sleep disturbance risk • 2200 -0700 weekday nights • 2200 – 0800 Saturday nights • 1800 – 0700 Sunday & Public Holidays nights	• Prolonged work (ie > 1 week) • Sleep disturbance possible • Impulsive noise or vibration after 11pm (eg vibratory rolling or rock breaking)

Out of hours works category comment:
The 'high risk' category has been selected for the works, as the works are prolonged ie. Two weeks of 5 nights per week Monday to Friday (no Saturday/Sunday OOHW work)

2.4 Affected Receivers

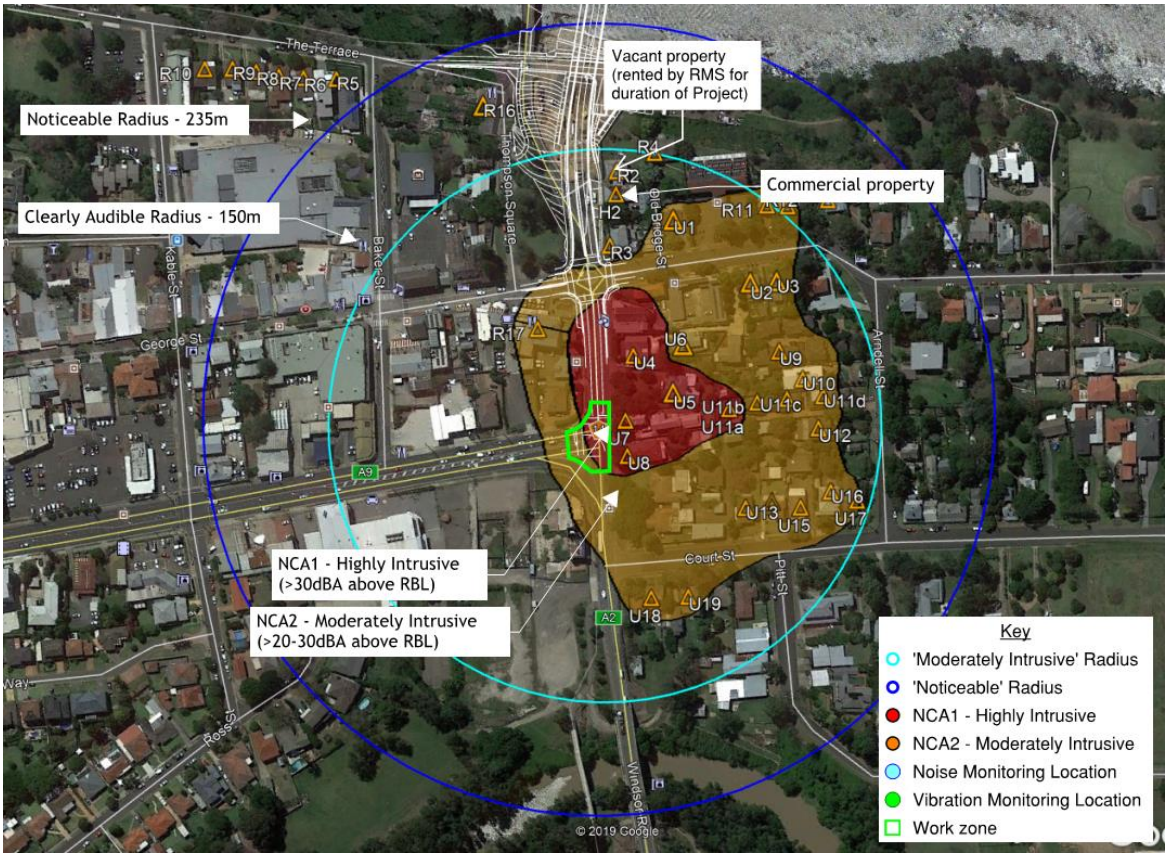

Figure 1 Affected receivers, notification area

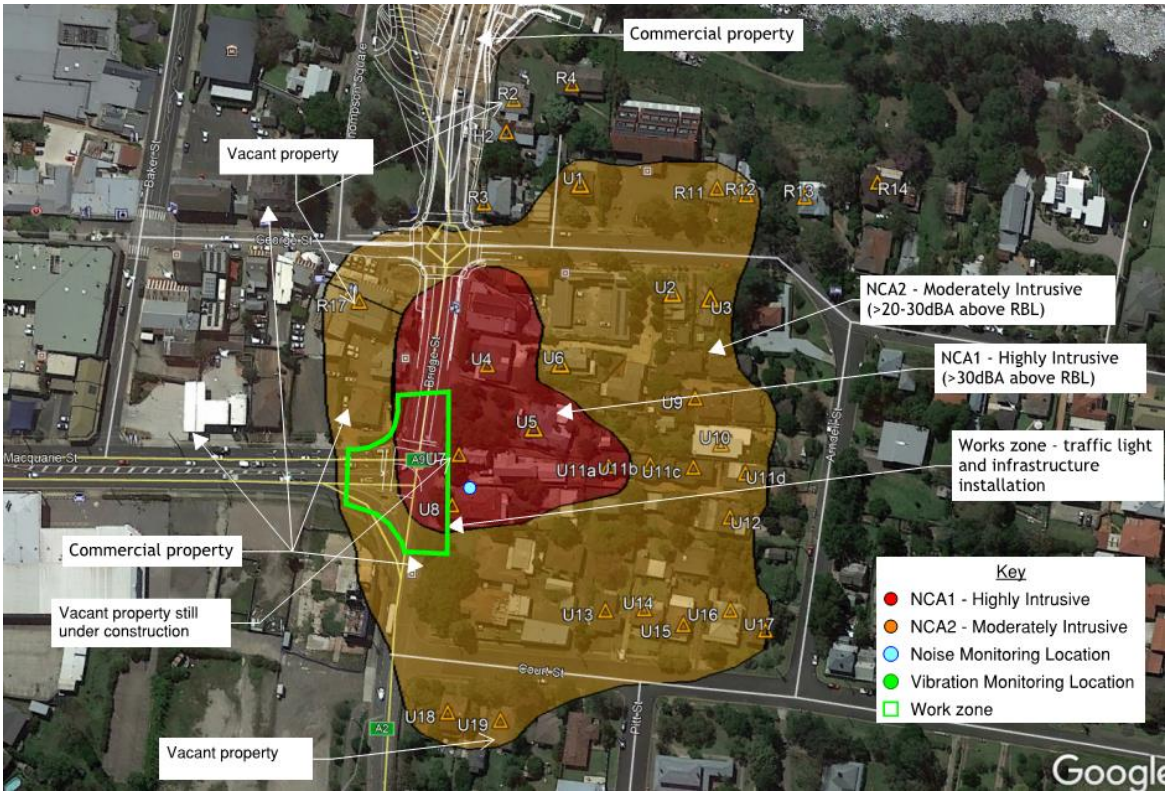

Figure 2 Work areas and details of works

Figure 1 shows the noise impact radii, the noise catchments areas and the receivers which fall within the various noise catchment areas (NCA's). The outer radius of 235m, shows the area in which the noise from the OOHW has the potential to be 'noticeable' (5 to 10dBA above RBL). All properties within these radii will be notified. The inner radius of 150m, shows the area in which the noise from the OOHW has the potential to be 'noticeable' (10 to 20 dBA above RBL)

Figure 2 generated from OOHW have the potential to be 'moderately intrusive', the receivers within this area will additionally have specific notification by way of phone call or door knocking prior to the works. NCA1 highlights the area in which the noise generated from the OOHW has the potential to be highly intrusive, receivers within these areas will be consulted with prior to the works, if the COVID-19 pandemic restrictions permit then alternate accommodation will be offered. This will be assessed to allow for letters of alternate accommodation to be delivered 1 week prior to the works commencing.

2.5 Sleep Disturbance Risk

An assessment was also carried out to determine the sleep disturbance impact of the work. Noise impacts or events that can cause interruptions to sleeping patterns are considered separately to noise levels during works outside standard hours. The ICNG does not provide a specific method for assessment of potential sleep disturbance noise impacts; and guidance on the acceptability of these events is taken from the NSW Road Noise Policy (RNP) (DECCW, 2011).

The RNP provides targets for considering sleep disturbance impacts:

- Sleep disturbance screening criterion – used to identify situations where there is the potential for sleep disturbance.
- Sleep disturbance awakening criterion – levels below which awakening is unlikely to occur.

The sleep disturbance screening criterion recommends that where the LA1 (1 minute) does not exceed the LA90 (15 minute) by 15 dB(A) or more, sleep disturbance impacts are likely to be maintained at an acceptable level. The LA1, (1 minute) descriptor is meant to represent a typical maximum noise level when measured using a 'fast' time response. The sleep disturbance awakening guideline is the threshold at which an awakening reaction is likely to occur.

Research discussed in the RNP identified this threshold to be an internal bedroom noise level of around 50 to 55 dB(A). Windows often allow the greatest amount of sound transmission from outside to inside across a building façade.

Noting guidance presented in AS2436-2010, where bedrooms are ventilated by an opened window, a sleep disturbance awakening criterion measured outside the bedroom window of 60 to 65 dB(A) less the conversion from LAEq 15 minute to an LA 1 minute (conservatively assumed to be 10 dB(A) would generally apply (i.e. 55 dB(A)).

The proposal would have the potential to create sleep disturbance to:

- Receivers located within 95m of the work zone where there is a line of sight to the between to the property
- Receivers located within 25m of the proposed works where there is no line of sight

This includes the following properties:

- U7: 26 Bridge Street (vacant property still under construction)
- U8: 28 Bridge Street
- U4: 3/52 George Street
- U5: 20 Bridge Street
- U11a: 14c Arndell Cl

This has been modelled via the *RMS Construction Noise Estimator* ***– Distance (scenario)*** to experience sleep disturbance noise levels of LAmax 65 dB(A).

The mitigation measures outlined in Section 2.7 and 2.8 minimise the identified sleep disturbance risk and sleep disturbance remains at a 'risk' level. This includes the offer of alternate accommodation for these receivers.

2.6 Standard noise mitigation measures		**Why not? / Comment**
Can work be carried out during a less sensitive time period?	No	ROL requirements do not allow for the works to be complete during standard construction hours
Are all construction vehicles fitted with non-tonal reversing ambient sensitive alarms?	Yes	Site vehicles have non-tonal beepers installed.

Can mobile acoustic hoarding be used to shield stationary items where noise levels are 20 dB(A) above RBL at affected receivers?	Yes	Can be used in some instances, will be assessed on site
Is there appropriate communication method on site to avoid communicating at elevated voice levels?	Yes	Two-way radios or mobile phones will be used in lieu of elevating voices

Identify any other standard measures where applicable:
Other standard mitigation measures will also be implemented these include;

- No shouting, swearing or loud music
- Two-way radios will be used for communication in lieu of shouting, whistling, horns etc.
- No dropping of materials or objects
- Affected receivers will be notified of the upcoming works
- Works resulting in an impulsive or tonal noise emission will be undertaken in in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block.
- Works will commence as soon as the ROL permits to allow for early as possible completion
- Site vehicles and plant that have non-tonal 'quackers' will be used to complete the works
- Regular monitoring of construction lighting will be done to avoid unnecessary light spill
- Noisier works such as jackhammering and concrete cutting will be completed prior to midnight
- Attended monitoring will occur during all out-of-hours work to confirm the predictions in the noise assessment were accurate. Monitoring will occur at the nearest sensitive receiver. Monitoring will also occur if a complaint is received during any works including out-of-hours work.
- Alternate accommodation will be offered to the receivers within NCA1 – 'Highly Intrusive'

The mitigation measures detailed here will be conveyed to all staff through a pre-start tool box

2.7 Additional Noise Mitigation Measures

Table 2.7 below details the noise impact categories as per the RMS Construction Noise Guidelines and the mitigation measures which are triggered by each category. Additionally, the table details the distance which is affected by the relative noise impact category and the receivers which fall within that category.

Note: The impacts and mitigation measures discussed are in relation to the OOHW Period 2 to ensure a conservative approach is taken in this assessment

****Identify noise affected zones and additional noise mitigation measures using Roads and Maritime's Maintenance Noise Estimator****

Noise Impact Category and relative mitigation measures (See Section 3 below for definitions)	Affected distance [metres]	Applicable Residential Receivers
Noticeable (5 to 10 dBA above RBL) Notification	235m	All in 'Noticeable' radius
Clearly Audible (10 to 20 dBA above RBL) Notification	150m	All in 'Clearly Audible" radius
Moderately Intrusive (20 to 30 dBA above RBL) Notification, Phone Call (or other form of engagement), Specific Notification	70m (without line of sight)	All in NCA2: U1, R11, R12, U2, U3, U6, R17, U9, U11(b-d), U12-U19
Highly Intrusive (>30 dBA above RBL) Alternative accommodation (if COVID-19 situation permits), Phone Call (or other form of engagement), Specific Notification Duration Respite	10m (with line of sight)	All in NCA1: U4, U7, U8, U5, U11a

2.8 Mitigation Measures Comments

- **Notification:** All residents within the 'Noticeable' radius will be notified by letter box drop of the works prior to construction
- **Engagement:** All in residents within moderately intrusive NCA (NCA2) will have other forms of engagement such as phone call or email (door knocking is the preferred form of consultation however due to social distancing policies and the current COVID-19 pandemic, this is not acceptable). These residents will be engaged with to notify them of the changed date.
- **Respite Period 1/2:** Due to the nature of the works and the justification provided in Part 1, the works will not adhere to the respite periods, duration respite will instead be used.
- **Duration Respite:** These works will be conducted under duration respite consisting of two weeks of five nights per week. In accordance with the requirements for Duration Respite, community consultation has been conducted to demonstrate support for the works to be conducted in a two week block as opposed to 2-3 months of two nights per week. The community consultation conducted for the works has been included in Appendix A.
- **Alternate accommodation –** Considering the current situation with the COVID-19 pandemic, it is not socially responsible to offer alternate accommodation. However, this will be monitored between now and the works commencing if this changes then alternate accommodation will be offered.

2.9 Monitoring During OOHW

Noise Monitoring

Noise monitoring will be conducted throughout the works to confirm that the noise levels predicted in this assessment are accurate, monitoring locations are chosen based on the properties being the nearest sensitive receivers to the works.

Additionally, safety of the personnel undertaking the noise monitoring has been taken into consideration with locations chosen that are in close proximity to the main works. As these monitoring locations are close to the works, they are considered to be 'worst-case scenario' and noise levels at a greater distance from the works to be significantly less. The receiver which monitoring will be conducted at is U8: 28 Bridge Street.

Vibration Monitoring

There will be no vibration monitoring conducted through the OOHW as works do not involve the use of vibration emitting equipment in close proximity to buildings.

2.10 Community Consultation

Community consultation has entailed a community survey, the aim of this survey is to demonstrate that the community support for these works being conducted under Duration Respite as per the CNVMP. A total 36 residents were contacted, of this 36 contact was made with 13 residents. Of the 13 residents contacted, 100% supported the works being conducted under duration respite.

The other 19, contact was unable to be made, despite attempting to door knock on three separate occasions and different times. At each visit a calling card was left with a request to contact the project team if they had any issues with the works. No residents have contacted the Project team.

4 properties within those 36 visited were vacant properties.

Furthermore, prior to works the affected receivers in NCA1 and NCA2 will receive targeted notification and the affected receivers within NCA1 may receive offers of alternate accommodation (this is dependent on the restrictions of the COVID-19 pandemic). The details and results of the community survey and the example letters offering alternate accommodation are found in the Community Consultation Strategy for these works attached as Appendix A.

3.0 Definition of mitigation measures from RMS Construction Noise Estimator for Individual Plant		
Abbreviation	**Measure**	**Description**
N	Notification (letterbox drop or equivalent)	Advanced warning of works and potential disruptions can assist in reducing the impact on the community. The notification may consist of a letterbox drop (or equivalent) detailing work activities, time periods over which these will occur, impacts and mitigation measures. Notification should be a minimum of 5 working days prior to the start of works. The approval conditions for projects may also specify requirements for notification to the community about works that may impact on them.
SN	Specific notifications	Specific notifications are letterbox dropped (or equivalent) to identified stakeholders no later than seven calendar days ahead of construction activities that are likely to exceed the noise objectives. The specific notification provides additional information when relevant and informative to more highly affected receivers than covered in general letterbox drops. The exact conditions under which specific notifications would proceed are defined in the relevant Additional Mitigation Measures. This form of communication is used to support notifications, or to advertise unscheduled works.
PC	Phone calls	Phone calls detailing relevant information made to identified/affected stakeholders within seven calendar days of proposed work. Phone calls provide affected stakeholders with personalised contact and tailored advice, with the opportunity to provide comments on the proposed work and specific needs. Where the resident cannot be telephoned then an alternative form of engagement should be used.
IB	Individual briefings	Individual briefings are used to inform stakeholders about the impacts of high noise activities and mitigation measures that will be implemented. Project representatives would visit identified stakeholders at least 48 hours ahead of potentially disturbing construction activities. Individual briefings provide affected stakeholders with personalised contact and tailored advice, with the opportunity to comment on the project. Where the resident cannot be met with individually then an alternative form of engagement should be used.
RO	Respite offer	Respite Offers should be considered made where there are high noise and vibration generating activities near receivers. As a guide work should be carried out in continuous blocks that do not exceed 3 hours each, with a minimum respite period of one hour between each block. The actual duration of each block of work and respite should be flexible to accommodate the usage of and amenity at nearby receivers. The purpose of such an offer is to provide residents with respite from an ongoing impact. This measure is evaluated on a project-by-project basis, and may not be applicable to all projects.
R1	Respite period 1	Out of hours construction noise in out of hours period 1 shall be limited to no more than three consecutive evenings per week except where there is a Duration Respite. For night work these periods of work should be separated by not less than one week and no more than 6 evenings per month.
R2	Respite period 2	Night time construction noise in out of hours period 2 shall be limited to two consecutive nights except for where there is a Duration Respite. For night work these periods of work should be separated by not less than one week and 6 nights per month. Where possible, high noise generating works shall be completed before 11pm.
DR	Duration respite	Respite offers and respite periods 1 and 2 may be counterproductive in reducing the impact on the community for longer duration projects. In this instance and where it can be strongly justified it may be beneficial to increase the work duration, number of evenings or nights worked through Duration Respite so that the project can be completed more quickly. The project team should engage with the community where noise levels are expected to exceed the NML to demonstrate support for Duration Respite. Where there are few receivers above the NML each of these receivers should be visited to discuss the project to gain support for Duration Respite. Support may be demonstrated from surveys, contact phone numbers and community events.

3.0 Definition of mitigation measures from RMS Construction Noise Estimator for Individual Plant		
Abbreviation	**Measure**	**Description**
AA	Alternative accommodation	Alternative accommodation options may be offered to residents living in close proximity to construction works that are likely to experience highly intrusive noise levels. The specifics of the offer will be identified on a project-by-project basis. Additional aspects for consideration shall include whether the highly intrusive activities occur throughout the night or before midnight.
V	Verification	Please see Appendix F of CNVG for more details about verification of Noise and Vibration levels as part of routine checks of noise levels or following reasonable complaints. This verification should include measurement of the background noise level and construction noise.

*Due to the COVID-19 pandemic, individual briefings will not being undertaken face-to-face, and will be limited to phone, email or text exchanges.

Appendix A

Community Consultation Strategy for OOHW No. 32

1. INTRODUCTION

1.1 Purpose

The purpose of this strategy is to detail the community consultation to be conducted prior to and during the OOHW. As it is necessary that these OOHW are completed under duration respite across two weeks of 5 consecutive nights per week as opposed to 2 – 3 months of two nights per week to reduce the impact to the community, the community consultation has been done to demonstrate support for duration respite as per the Noise and Vibration Management Plan.

1.2 Requirements of Mitigation Measures

The requirements of duration respite are as follows;

The project team should engage with the community where noise levels are expected to exceed the NML to demonstrate support for Duration Respite. Support may be demonstrated from surveys, contact phone numbers and community events. (Source: RMS Construction Noise and Vibration Guidelines)

As the works are being conducted under duration respite, a survey has been conducted by way of phone call or doorknocking to engage with the community to demonstrate support for duration respite.

The requirements of alternate accommodation are as follows;

Alternative accommodation options may be offered to residents living in close proximity to construction works that are likely to experience highly intrusive noise levels. (Source: RMS Construction Noise and Vibration Guidelines)

The residents with the NCA1 (Highly Intrusive) will have letters delivered to them offering them alternate accommodation (if the CVOID-19 pandemic situation permits at the time, if it does not the resident will be consulted with personally to discuss alternate mitigation measures)

Notification

All the residents within the 'Noticeable' catchment will receive notification of the wors commencing. Additionally, those in NCA1 and NCA2 will receive additional forms of engagement, either phone call or email. Usually this would be replaced with doorknocking, however this is not possible due to COVID-19 restrictions.

2. CONSULTATION MATERIAL

2.1 Transcript Example for Community Survey

We are here today on behalf of Georgiou, Transport for NSW and the Windsor Bridge Project, to speak with you regarding some upcoming out of hour's works. These works are necessary to allow for the switching of the traffic onto the new bridge. The works will consist of;

- *Removal of pavement, installation of conduits, and upgrade of pits.*
- *Installation of Traffic Signal infrastructure.*

- *Preparation of subgrade, remove pram ramps and part of the median. Concrete new footpath and pram ramps and median. Reinstate any pavement removed during installation works*

It is necessary we do all these works out of hours due to the close proximity of the works to the live traffic. It is also necessary to complete these works in a continuous block to reduce the impacts to the community and ensure long term safety for all.

2.2 Letter of offer of alternate accommodation

GEORGIOU GROUP PTY LTD
New South Wales Office
Suite 3.02, 53 Berry Street
North Sydney NSW 2060
PO Box 6193
North Sydney NSW 2059
T: +61 2 8072 3600
F: +61 2 8072 3601
E: nsw@georgiou.com.au
W: www.georgiou.com.au
ABN: 82 073 851 948

To the Resident,

The Georgiou Windsor Bridge Project Team have recently engaged with you regarding the upcoming out of hours works, in which we discussed and you understand the following;

- These works will be carried out between Monday 1st June and Friday 12th June (with the contingency period of Monday 15th – 26th June if adverse weather is encountered) This work does not include Saturday/Sunday nights
- You will be notified of these works beginning one week prior to works commencing
- These works will consist of;
  - Removal of pavement, installation of conduits, and upgrade of pits.
  - Installation of Traffic Signal infrastructure.
  - Preparation of subgrade, remove pram ramps and part of the median. Concrete new footpath and pram ramps and median. Reinstate any pavement removed during installation works

Even though the works will be conducted out of standard hours, not all works will be noisy. However, if you feel as though the noise from these works may impact you negatively and you would require alternative accommodation during this time or have any questions relating to the construction please contact the Georgiou Windsor Bridge Project Team on 1800 983 657 or email windsorbridge@georgiou.com.au

Kind regards,

The Georgiou Windsor Bridge Project Team

2.3 OOHW community notification

May/June 2020

Night work continuing at Bridge and Macquarie Streets, Windsor

As part of the Windsor Bridge replacement project, Transport for NSW will continue night work to install underground services for new traffic lights and further utility work. This work will finalise the intersection at Bridge and Macquarie streets and prepare the area for the opening of the new bridge.

The upcoming night work will include:

- installation of traffic light infrastructure
- installation and mounting of two new poles
- remounting camera from Bridge Street at T- intersection of Macquarie Street to existing traffic signal pole
- removal and reinstatement of footpath

This work will take place on Bridge Street and Macquarie Street. We have included a map to show the work area.

Our work schedule

We will complete this work on five night shifts per week from **Monday 1st June to Friday 12th June 2020, weather permitting** (excluding Saturday and Sunday nights).

We need to carry out this work at night to minimise impact to the road network and to ensure the safety of road users and our workers. Our work hours will be between **8pm and 5am Monday to Friday.**

How will the work affect you?

There will be limited pedestrian access around the worksite on the eastern and western side of Bridge Street and Macquarie Street during the five nights of work per week.

Traffic controllers will be in place to assist pedestrians to cross Bridge and Macquarie streets during the work.

There may be some impact to residents during this work, including noise and lighting. We will make every effort to minimise these impacts by:

- turning vehicles and machinery off when not in use
- directing noise-generating equipment and lights away from properties where possible
- carrying out noise monitoring during the work.

Traffic changes

There will be some **temporary** traffic changes to ensure the work zone is safe.

Changed traffic conditions will include traffic controllers in place with road and lane closures on George Street, Bridge Street and Macquarie Street.

Access in and out of George Street from Bridge Street will be closed on both the eastern and western sides and detours will be in place. Access to the eastern side of George Street will be via Arndell and Court Streets. Access to the western side of George Street will be via Macquarie and Baker Streets.

Please keep to speed limits and follow signs and traffic controllers' directions.

For the latest traffic updates, you can call 132 701, visit livetraffic.com or download the Live Traffic NSW App.

Contact

If you have any questions about construction, please contact the Windsor Bridge Project Team on 1800 983 657 during business hours or email windsorbridge@georgiou.com.au

For more information on the project, visit rms.nsw.gov.au/windsorbridge

Thank you for your patience during this important work

Map of work location

131 450

If you need help understanding this information, please contact the Translating and Interpreting Service on 131 450 and ask them to call us on 1800 983 657.

3. SURVEY RESULTS

The project team attempted to engage with 35 resident's total. Of the 35, contact was made with 13 of those 13, 100% of those contacted supported the works being conducted over two week period under duration respite.

19 residents were unable to be contacted at any of the 3 consultation times and calling cards with a request to contact the Project team, were left in the door/mail box each visit. No residents have since tried to contact the team.

4 properties with the potential to be noise affected by the works are vacant properties

4. SURVEY DETAILS - Confidential

The following table details the results of the community consultation conducted in relation to the works.

ID	Address	Catchment	First Visit	Second Visit	Third Visit	AA* Offered?
U18	46 Court Street	NCA2	[redacted]	[redacted]	[redacted]	[redacted]
U19	44 Court Street	NCA2	[redacted]			[redacted]
	42 Court Street	NCA2	[redacted]	[redacted]	[redacted]	[redacted]
U13	49 Court Street	NCA2	[redacted]			[redacted]
U14	47 Court Street	NCA2	[redacted]	[redacted]	[redacted]	[redacted]
U15	45 Court Street	NCA2	[redacted]	[redacted]	[redacted]	[redacted]
U16	43 Court Street	NCA2	[redacted]			[redacted]
U17	41 Court Street	NCA2	[redacted]			[redacted]
	2 Pitt Street		[redacted]	[redacted]	[redacted]	[redacted]
U7	26 Bridge Street		[redacted]	[redacted]	[redacted]	[redacted]
U8	28 Bridge Street	NCA1	[redacted]	[redacted]		[redacted]
U5	20 Bridge Street	NCA1	[redacted]	[redacted]		[redacted]
U2	48 George Street		[redacted]	[redacted]	[redacted]	[redacted]
U3	50 George Street		[redacted]	[redacted]	[redacted]	[redacted]
U4	3/52 George Street	NCA1	[redacted]			[redacted]
U6	2/52 George Street	NCA2	[redacted]			[redacted]
R17	66 George Street		[redacted]			[redacted]
U1	51 George Street		[redacted]	[redacted]	[redacted]	[redacted]
	53 George Street		[redacted]			[redacted]
	54 George Street		[redacted]	[redacted]		[redacted]
U14	47 George Street		[redacted]	[redacted]		[redacted]
U15	45 George Street		[redacted]	[redacted]	[redacted]	[redacted]
U16	43 George Street		[redacted]	[redacted]	[redacted]	[redacted]
U17	41 George Street		[redacted]	[redacted]		[redacted]

Out-of-Hours-Work (OOHW) Assessment No. 032

ID	Address	Catchment	First Visit	Second Visit	Third Visit	AA* Offered?
U9	Unit 1/10 Arndell Street		[redacted]	[redacted]	[redacted]	[redacted]
U9	Unit 2/10 Arndell Street	NCA2	[redacted]	[redacted]	[redacted]	[redacted]
U9	Unit 3/10 Arndell Street	NCA2	[redacted]			[redacted]
U9	Unit 4/10 Arndell Street	NCA2	[redacted]			[redacted]
U9	Unit 5/10 Arndell Street	NCA2	[redacted]	[redacted]	[redacted]	[redacted]
U10	12 Arndell Street	NCA2	[redacted]	[redacted]	[redacted]	[redacted]
U11a	14 Arndell Street	NCA2	[redacted]	[redacted]	[redacted]	[redacted]
U11c	14A Arndell Street	NCA2	[redacted]	[redacted]	[redacted]	[redacted]
U11b	14B Arndell Street	NCA2	[redacted]	[redacted]	[redacted]	[redacted]
U11a	14C Arndell Street	NCA1	[redacted]			[redacted]
U12	16 Arndell Street		[redacted]	[redacted]	[redacted]	[redacted]
	1 Arndell Street		[redacted]	[redacted]	[redacted]	[redacted]

*AA – alternate accommodation