

## NICB OoHW Application 006 - Ausgrid electrical works

Out of hours work approval request form			
No:	Notification date:	Approval date:	Project:
006	24/01/2020		MR82 Shared Path Bridge over Newcastle Road, Jesmond
A. Contact details	Name	Mobile number	Email
Contractor Environmental Site Representative	██████ ██████	██████████	██
Contractor Construction Manager	██████████ ██████	██████████	██
Contractor Foreman	██████████ ██████	██████████	██
Contractor Project Engineer	██████████	██████████	██
<b>B. Details of work:</b> Include a map showing location of work extent and nearest sensitive receivers	Location (Chainage):		<ul style="list-style-type: none"> <li>Newcastle Rd, Coles St, Steel St, Kiah Ave</li> </ul>
	NCA/s:		Works Location – <b>Refer Figure 1</b> <ul style="list-style-type: none"> <li>NCA 5 – Various Locations</li> </ul>
	Description of works:		<p><b>Electrical Outage 3;</b>                      Requires a co-ordinated power outage to;</p> <ul style="list-style-type: none"> <li>Install new low voltage cable along Coles street, Steel Street and Kiah Avenue</li> <li>Remove redundant low voltage cable along Newcastle Road and Steel Street.</li> <li>Install residential connections where required.</li> </ul> <p>This OOHW activity will be staged as follows;</p> <ul style="list-style-type: none"> <li>Install new low voltage cable from NP02 to NP05, NP09 to NP05, NP05 to EP11 and NP05 to EP09A.</li> <li>Connect new S/L at NP05A and NP05.</li> <li>Connect level 2 services.</li> <li>Remove low voltage cable from NP02 to EP08, EP04 to NP02C / EP16, EP06 to EP07, NP09 to EP11 via EP08 and EP08 to NP05A / EP09A.</li> <li>Remove poles EP04, EP05, EP06, EP07, EP08 and EP09.</li> </ul> <p>This activity will be undertaken during OOHW period 1 (Evening) and OOHW period 2 (Night).</p>

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	Machinery/ plant to be used	2 x Elevated work platforms 2 x Crane-borer trucks 2 x Day makers 1 x Chainsaw 4 x Light Vehicles 10 x Personnel
	Traffic control measures required:	Newcastle Road eastbound shoulder and slow lane closure from approximately Hill St to Steel St for full duration of permissible ROL. Steel Street northbound lane closure from Coles St to Robert St as required for conductor stringing works ROP (City of Newcastle). Coles St eastbound lane closure required during conductor stringing works ROP (City of Newcastle) Kiah Ave westbound lane closure required during conductor stringing works ROP (City of Newcastle)
	Lighting required:	Day makers will be required at various locations during this OOHW activity. Day makers will be mobile units and relocated during the works, to minimise the number required
	Proposed dates:	This OOHW activity is scheduled for the week commencing 17 <sup>th</sup> February 2020. It is anticipated this activity will require two nights for completion, commencing 19 <sup>th</sup> February and concluding 21 <sup>st</sup> of February (Morning).  No works will be undertaken during the weekend evening or night period.
	Proposed timings:	Start: 7:30pm Completion: 5.00am
	Justification - why does work need to occur outside of standard construction hours?: (attach support information as required)	This activity requires a planned power outage co-ordinated with Ausgrid to undertake the necessary upgrade of electrical infrastructure. The power outage is scheduled during OOHW periods to limit the impact on affected residents. Ausgrid and Daracon will require extended access to Steel street, Coles Street and Kiah Avenue; to install / string low voltage conductors from NP02 to NP05 / NP09 to NP05 / NP05 to EP11 / NP05 to EP09A. Existing low voltage cable from NP02 to EP08 / EP04 to NP02C / EP16, EP06 to EP07, NP09 to EP11 via EP08 and EP08 to NP05A / EP09A.

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<p><b>C. Risk assessment</b></p>	<p><b>Noise;</b> A risk assessment has been undertaken using a noise modelling tool to predict the expected noise impact at individual receivers for this OOHW activity. The input data for noise modelling included, the location of work activity, the type and quantity of plant and equipment, and the duration of operation.</p> <p>The noise modelling data was assessed against the relevant NML's and sleep disturbance criteria to determine the risk factor in accordance with the OOHW protocol.</p> <p><b>Vibration;</b> Plant required to undertake this OOHW activity will not encroach upon the minimum safe working distances.</p> <p>All plant are tyred equipment and will be restricted to existing roads, therefore predicted vibration levels are expected to be consistent with levels generated by existing traffic.</p> <p>Vibration levels are considered to be insignificant and are not expected to exceed the vibration criteria for 'Human Comfort' (BS528-2) or 'Structural Damage' (DIN 4150-3) of property.</p>
<p><b>NML (refer Table 3-2 of OOHW protocol)</b></p>	<p><b>NCA 5:</b></p> <p>Evening – 56</p> <p>Night – 46</p>
<p><b>Is the work highly noise intensive? (above 75dB(A) LAeq (15 minute))</b></p>	<p>The noise modelling has determined that this activity will not generate high noise levels (&gt;75dB)</p>
<p><b>Risk factor category (low or high):</b></p>	<p>Low <input type="checkbox"/> High <input checked="" type="checkbox"/></p> <p>Comments</p> <p>In accordance with the risk factors nominated within OOHW protocol, this work activity is considered to be high risk due to the following;</p> <ul style="list-style-type: none"> <li>• Works generating noise levels greater than 5dBA<sub>Leq(15minutes)</sub> above the Rating Background Level (RBL)</li> </ul>

**D. Details of noise or vibration assessment completed:**

Comments:

***Noise Modelling;***

The noise modelling has been completed initially, by utilising the 'Noise Mitigation Tool' created by RCA (RCA Australia,) to predict sound levels at individual receivers and to allow the noise mitigation requirements to be determined in bulk. Upon further assessment of the predicted Noise levels generated by the RCA noise tool, a distance-based calculation has been applied to determine the distance of specific noise perception levels occurring at individual receivers and subsequently, to determine the mitigation measures to be implemented.

Noise modelling has been completed for OOHW period 1 and 2, then the distance-based calculation applied to provide a visual representation of the noise impact, and to assist with the distribution of notifications.

***Attenuation Applied to Modelling;***

As the noise tool provides predicted levels assuming a direct line of sight to receivers, and therefore does not consider the effects of topography or attenuation provided by physical structures (retaining wall or residential properties), noise modelling was completed again with the inclusion of attenuation measures. This was undertaken to provide a more accurate representation of the impacts to receivers and predicted sound levels, and also to reduce the required number of notifications and/or mitigations measures.

The attenuation measures applied within the supplementary noise modelling included;

- Barrier height of 4m – average height of residential property.
- Barrier height of 2 - 3m – existing retaining wall and embankment located on Newcastle Road
- Distance of barrier (m) – distance between the property closest to the noise source (at a selected location relevant to the specific work activity) and the adjacent property. This distance ranged from 10m – 40m.

The application of the above attenuation measures resulted in an average reduction of 7-10dB(A), by way of shielding from one residential property (acting as the barrier) to the next property.

***Noise Modelling Results;***

- Noise modelling has determined that this OOHW activity will not generate 'high noise' levels, that being, noise levels above (>75dB(A)).
- Predicted sound levels (dB(A)) have determined multiple receivers will be impacted by noise levels in excess of 5dB above the RBL.
- The highest level of impact for the works is located 1 Steel (71dB), which exceeds the NML for NCA 5 (46dB).
- The following NCA's will receive noise levels above the RBL during OOHW period 2 (Night – assuming attenuation from existing property/retaining wall); NCA 5, NCA 3.

***OOHW Evening Period 1 – Assumes no Attenuation; Refer Figure 2***

- Noise Perception Level is 'Noticeable' (5-10dB(A)) to a distance of 534
- Noise Perception Level is 'Audible' (10-20dB(A)) to a distance of 297m
- Noise Perception Level is 'Moderately Intrusive' (20-30dB(A)) to a distance of 73m
- Properties potentially Impacted - 392

***OOHW Night Period 2 – Assumes no Attenuation; Refer Figure 3***

- Noise Perception Level is 'Noticeable' (5-10dB(A)) to a distance of 682m
- Noise Perception Level is 'Audible' (10-20dB(A)) to a distance of 561m

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- Noise Perception Level is 'Moderately Intrusive' (20-30dB(A)) to a distance of 218m
- Noise Perception Level is 'Highly Intrusive' (>30 dB(A)) to a distance of 19m
- Properties potentially impacted – 878

### ***OOHW Night Period 2 – Attenuation Applied; Refer Figure 4***

- Noise Perception Level is 'Noticeable' (5-10dB(A)) to a distance of 346m
- Noise Perception Level is 'Audible' (10-20dB(A)) to a distance of 156m
- Noise Perception Level is 'Moderately Intrusive' (20-30dB(A)) to a distance of 51m
- Noise Perception Level is 'Highly Intrusive' (>30 dB(A)) to a distance of 19m
- Properties potentially impacted – 145

## E. Proposed Mitigation Measures

Scheduling and staging of the works has been planned in an effort to reduce the impact upon receivers. The works will be staged to ensure any pre-works can be achieved during standard construction hours, limiting the amount and operation of plant and equipment required during the OOHW periods.

Works will be staged as follows;

### **Pre-works;**

- Residential service connections points to be inspected during standard hours to minimise the impact to affected residents
- Mobilisation of some items of plant
- Preparation of work areas
- Pre works will be completed within standard construction hours

### **During Works;**

- Removal of HV cable from NP09 to EP07 (inc. EP08). Install new low voltage cable from NP02 to NP05, NP09 to NP05, NP05 to EP11 and NP05 to EP09A.
- Connect new S/L at NP05A and NP05.
- Connect level 2 services.
- Remove low voltage cable from NP02 to EP08, EP04 to NP02C / EP16, EP06 to EP07, NP09 to EP11 via EP08 and EP08 to NP05A / EP09A.
- Remove poles EP04, EP05, EP06, EP07, EP08 and EP09.

This activity will be undertaken during OOHW period 1 (Evening) and OOHW period 2 (Night). The following standard mitigation measures will be implemented during this period;

### **Standard Mitigation Measures;**

- Administrative controls, induction / tool box consultation
- Schedule noisier work to be carried out earlier in the period where feasible
- All plant and equipment will be turned off when not in use
- All plant and equipment will be serviced regularly and operated in accordance with the manufacture's specifications
- Use of non-tonal reversing alarms (squawkers) are used instead of reversing beepers
- Radios used for communication to prevent the need for yelling
- Provide supporting noise modelling to identify impacts to receivers and relevant mitigations in accordance to QA Specification G36.
- Designated vehicle parking away from sensitive receivers

### **Additional Mitigation Measures;**

**Refer to Table 1** – for specific mitigation measures for individual receivers impacted by this OOHW activity. Additional mitigation measures will include;

### **Notification (N);**

Advanced warning of works and potential disruptions will assist in reducing the impact on the community. The notification will consist of a letterbox drop (or

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	<p>equivalent) detailing work activities, time periods over which these will occur, impacts and mitigation measures. Notification will be a minimum of 5 working days prior to the start of works.</p> <p><b>Individual Briefings (IB);</b></p> <p>Individual briefings will be used to inform stakeholders about the impacts of high noise activities and mitigation measures that will be implemented. Project representatives will 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.</p> <p><b>Verifications (V);</b></p> <p>Noise and/or vibration levels are checked by taking site measurements. This will be in response to a complaint or to confirm a safe vibration working distance.</p> <p>It should be noted that there may be personal circumstances among the sensitive receivers where the above approach to specific additional mitigation measures is not best suited. The Community Liaison Relations Manager has the authority to amend the above approach taking into account due consideration of the personal circumstances that may apply.</p>
<p><b>F. Community Consultation carried out including details of community feedback and how this has been addressed</b></p>	<p>Daracon's community liaison representative has 'door knocked' potentially impacted receivers and will continue to regularly engage with the community as the project works progress. Where residents were not present during 'door knocking' events, a 'Sorry I missed you' letter was left at the premises. This letter requests residents contact the community liaison representative where required, providing an opportunity to discuss the OOHW activity or project in general. Due to a very similar works scope and impacts, consultation for Application 006 was completed in a package with Application 004, however further consultation has been completed on January 20 and 24.</p> <p>Residents have been provided with an indicative schedule of upcoming night works (refer to Table 1 below).</p> <p>Daracon will provide notification targeted to receivers identified within the risk assessment and predicted noise modelling. Notification will occur 5 days prior to the commencement of the OOHW activity.</p> <p>Additionally, Daracon has obtained 24 community agreements in relation to OOHW's and will continue to seek further agreements as work progress.</p> <p>To date, Daracon has received only one specific response regarding specific mitigation requirements for OoHW. The children of an adjacent elderly resident has suggested they generally will relocate to their house during OoHW. Daracon shall continue to consult and advise on OoHW events.</p>

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<b>G. Respite framework – dates of previous respite periods, OOHW period 1 or 2, community agreements etc</b>	Respite to impacted residents has been considered when scheduling OOHW activities. This activity has been scheduled for 2 consecutive nights only, to minimise the impact to residents. However, the activity is expected to be completed within a single night period.		
<b>H. Details of non-residential receivers (if any) and corresponding NMLs</b>	The community liaison representative has contacted Jesmond Uniting church to determine if this OOHW activity will impact the church. The church has indicated there will be no church services occurring during this period, however recreational activities will be finishing as the OOHW commence, however power will not be switched off at that time, so it will not have an impact to their activities. The community liaison representative will continue to communicate with the church for all OOHW, to determine if any assistance is required during OOHW activities.		
<b>I. Are there any properties at risk of exceeding the screening criteria for cosmetic damage?</b>	Plant required to undertake this OOHW activity will not encroach upon the minimum safe working distances, therefore there is no risk of exceeding the criteria for cosmetic damage. Impacts for this OOHW will be consistent with existing traffic impacts.		
<b>J. Review/ Endorsements</b>			
<b>Contractor Community Liaison Representative</b>	Community notified <span style="float: right;">Date: 9,16,20,24/01/2020</span>		
	Whilst completing targeted community consultation, including provision of notifications (letter box drop) and individual briefings required for the previous OOHW activity (Power Outage No. 2), this provided an opportunity to discuss the OOHW activity detailed within this application.  Outcomes of this community engagement to date include; <ul style="list-style-type: none"> <li>• Community Agreements – 24 agreements have been obtained.</li> <li>• Individual Briefings – 19 individual briefings were completed during this consultation engagements this month (Refer Record of Discussion's).</li> <li>• Delivery of numerous 'Sorry we missed you cards'</li> </ul> Generally, the community has no objections and has not made any complaints with regards to previous OOHW activities.  The only query raised during this consultation event was from resident 3/16 Steel St, Jesmond (refer record of discussion).  Follow up individual briefings will be completed for residents that were not home during consultation undertaken, which received a 'Sorry we missed you card'.		
	Have the works been reviewed and endorsed? <span style="float: right;">Yes / <del>No</del></span>		
	Name:	Signature:	Date:
	[Redacted]	[Redacted]	24/01/2020
	Comments:		
<b>Roads and Maritime Environmental Manager (or delegate)</b>	Agreed mitigation measures: Standard mitigation measures to be applied as detailed above.		
Have the works been reviewed and endorsed? <span style="float: right;">Yes / <del>No</del></span>			



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	Name:	Signature:	Date:
			28/01/20
	Comments:		
<b>Roads and Maritime Project Manager</b>	Have the works been reviewed and endorsed?		<input checked="" type="radio"/> Yes / No
	Name:	Signature:	Date:
			28/01/2020
	Comments:		
<b>ER approval (low risk activities)</b>	Are the works approved?		Yes / No
	Name:	Signature:	Date:
	Comments:		
<b>Planning Secretary approval (high risk activities)</b>	Are the works approved?		Yes / No
	Name:	Signature:	Date:
	Comments:		

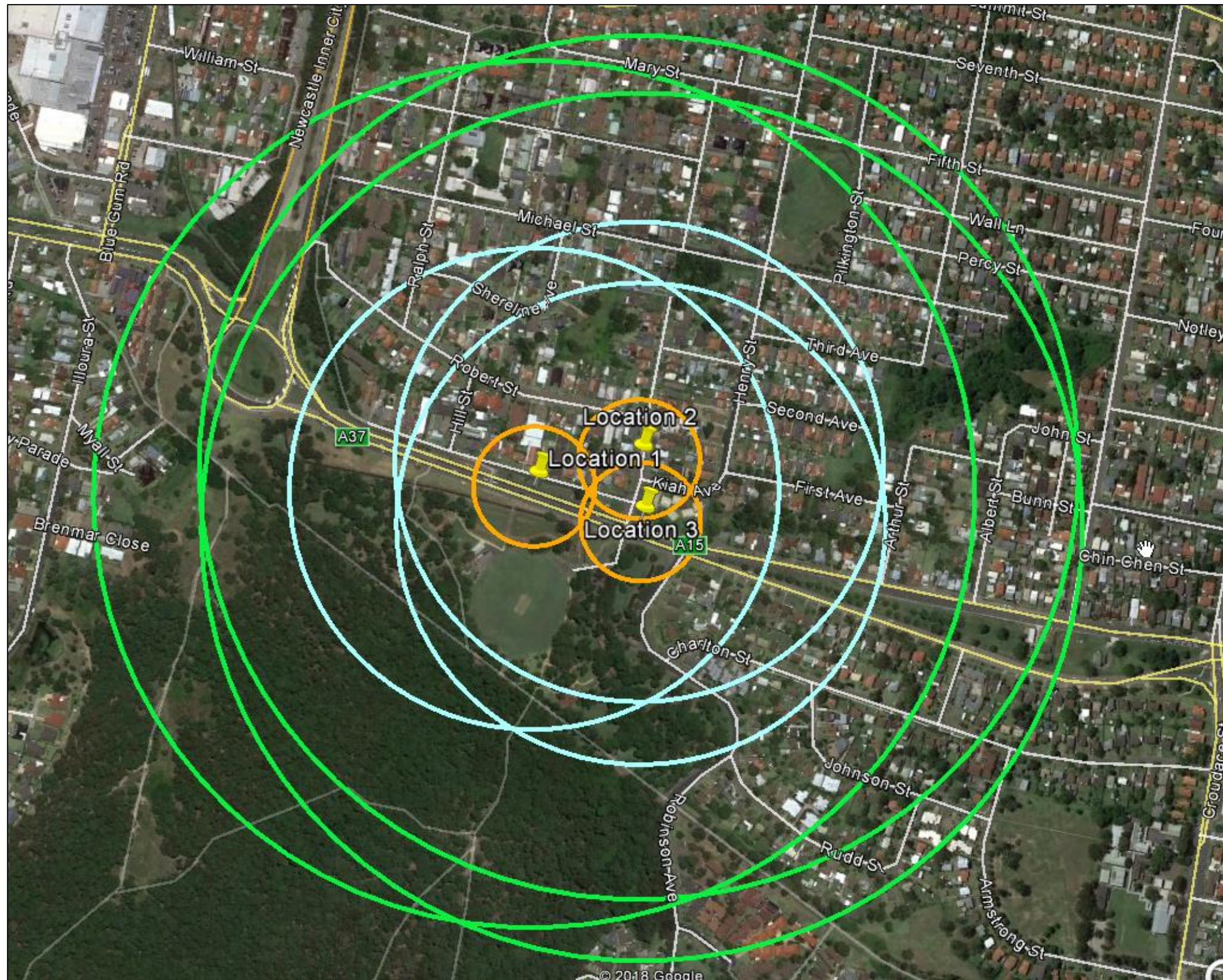


Figure 1: Works Location





Figure 2: OOHW Evening Period 1 – No Attenuation Applied



\* Noise Modelling - Assumes line of sight to receiver

Perception Level	dB(A) Above RBL	Distance from Noise Source (m)	
Noticeable	5 -10	534	Green
Audible	10 - 20	297	Cyan
Moderately Intrusive	20 - 30	73	Orange



Figure 3: OOHW Night Period 2 – No Attenuation Applied



\* Noise Modelling - Assumes line of sight to receiver

Perception Level	dB(A) Above RBL	Distance from Noise Source (m)	
Noticeable	5 -10	682	Green
Audible	10 - 20	561	Cyan
Moderately Intrusive	20 - 30	218	Orange
Highly Intrusive	>30	19	Red



Figure 4: OOHW Night Period 2 – Attenuation Applied



\*Attenuated noise modelling for Night period only, as this time period has the lowest noise criteria (NML)

\* Noise Modelling - Assumes an average reduction of 7-10dB(A), from shielding of existing property

Perception Level	dB(A) Above RBL	Distance from Noise Source (m)	
Noticeable	5 - 10	346	Green
Audible	10 - 20	156	Cyan
Moderately Intrusive	20 - 30	51	Yellow
Highly Intrusive	>30	19	Red