

Attachment 1 - OOHW approval request form

Out of hours work approval request form			
No:	Notification date:	Approval date:	Project:
2	8/11/2019		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. Details of work: Include a map showing location of work extent and nearest sensitive receivers	Location (Chainage):		<ul style="list-style-type: none"> NP02 (Ch 100) – Newcastle Rd Ch 0 to 200 NP09 (Ch 80) – Steel St Ch 30 to 120 (Ch 0 from intersection of Newcastle Rd)
	NCA/s:		Works Location – Refer Figure 1 <ul style="list-style-type: none"> NCA5
	Description of works:		Electrical Outage 1; Requires a power outage to remove and install new poles to upgrade the existing electrical infrastructure. This OOHW activity will be staged as follows; Stage 1 (Pre-works); <ul style="list-style-type: none"> The delivery and unloading of poles at the work locations Augur the foundations (NP02 and NP09), in preparation for erecting poles Mobilisation of some items of plant Stage 1 works will be completed within standard construction hours Stage 2 (During Power Outage) <ul style="list-style-type: none"> Mobilisation of Crane Erection of pole NP02 Transfer existing HV from EP3 to NP02. Remove existing pole EP03. Erect pole NP09 Remove existing pole EP10 and transfer conductors. Stage 2 works will be undertaken during OOHW period 1 (evening) and OOHW period 2 (Night).

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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 Mobile Crane 4 x Light Vehicles 8 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. Very short term full eastbound road closure during pole NP02 pole lift manoeuvre. Steel Street northbound lane closure from Coles St to Robert St for full duration of ROP (City of Newcastle).
	Lighting required:	Day makers required at NP02 and NP09 locations. Day makers required at Ausgrid earthing locations (Ausgrid to confirm). Day makers will be relocated during the works, to minimise the number required
	Proposed dates:	This OOHW activity is scheduled for the week commencing 16 th December 2019. It is anticipated this activity will require two nights for completion, commencing 16 th – December and concluding 18 th December.
	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 by Ausgrid to undertake the necessary electrical works. The power outage is scheduled during OOHW periods to limit the impact on affected residents. Ausgrid require extended access to Newcastle Road to install permit earthing equipment for Outage 1 and Daracon require extended access for plant and equipment for the installation of NP02 and to transfer the electrical conductors.
C. Risk assessment	<p>Noise; 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>Vibration; Plant required to undertake this OOHW activity will not encroach upon the minimum safe working distances. Plant will be restricted to existing roads, therefore predicted vibration levels are expected to be consistent with levels generated by existing traffic.</p>	

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NML (refer Table 3-2 of OOHW protocol)	NCA 5: Evening – 56 Night – 46
Is the work highly noise intensive? (above 75dB(A) LAeq (15 minute))	The noise modelling has determined that this activity will not generate high noise levels (>75dB)
Risk factor category (low or high):	Low <input type="checkbox"/> High <input checked="" type="checkbox"/> Comments In accordance with the risk factors nominated within OOHW protocol, this work activity is considered to be high risk due to the following; <ul style="list-style-type: none">• Less than 5dB_{A,Leq(15minutes)} above the Rating Background Level (RBL)

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 to individual receivers.

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 (72dB), 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 – 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
- Properties potentially Impacted - 392

OOHW Night Period – 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
- Noise Perception Level is 'Moderately Intrusive' (20-30dB(A)) to a distance of 218m

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

OOHW Night Period – Attenuation Applied; Refer Figure 4

- Noise Perception Level is 'Noticeable' (5-10dB(A)) to a distance of 310m
- Noise Perception Level is 'Audible' (10-20dB(A)) to a distance of 127m
- 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;

- **Stage 1** (Pre-works);
 - The delivery and unloading of poles at the work locations
 - Augur the foundations (NP02 and NP09), in preparation for erecting poles
 - Mobilisation of some items of plant
 - Stage 1 works will be completed within standard construction hours
- **Stage 2** (During Power Outage)
 - Mobilisation of Crane
 - Erection of pole NP02
 - Transfer existing HV from EP3 to NP02.
 - Remove existing pole EP03.
 - Erect pole NP09
 - Remove existing pole EP10 and transfer conductors.
 - Stage 2 works 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;

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.

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	<p>Individual Briefings;</p> <p>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.</p> <p>Verifications;</p> <p>Noise and/or vibration levels are checked by taking site measurements. This could 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>F. Community Consultation carried out including details of community feedback and how this has been addressed</p>	<p>Daracon's community liaison representative has commenced 'door knocking' potentially impacted receivers, Residents have been provided a notification of start of work which includes advance warning of night time barrier installation and a schedule of upcoming night works activities.</p> <p>There has been no major concerns raised by potentially impacted receivers, to date, during the consultation process.</p> <p>Targeted notifications to receivers identified within the risk assessment and predicted noise modelling, will occur 5 days prior to the commencement of the OOHW activity.</p>		
<p>G. Respite framework – dates of previous respite periods, OOHW period 1 or 2, community agreements etc</p>	<p>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.</p>		
<p>H. Details of non-residential receivers (if any) and corresponding NMLs</p>	<p>No non-residential receivers will be impacted by this OOHW activity.</p>		
<p>I. Are there any properties at risk of exceeding the screening criteria for cosmetic damage?</p>	<p>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.</p>		
<p>E. Review/ Endorsements</p>			
<p>Contractor Community Liaison Representative</p>	<p>Community notified</p>		<p>Date:</p>
	<p>Additional consultation requirements: Notification to be provided 5 days prior to works</p>		
	<p>Have the works been reviewed and endorsed?</p>		<p>Yes / No</p>
	<p>Name:</p>	<p>Signature:</p>	<p>Date:</p>

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	Comments:		
Roads and Maritime Environmental Manager (or delegate)	Agreed mitigation measures:		
	Have the works been reviewed and endorsed?		Yes / No
	Name:	Signature:	Date:
	Comments:		
Roads and Maritime Project Manager	Have the works been reviewed and endorsed?		Yes / No
	Name:	Signature:	Date:
	Comments:		
ER approval (low risk activities)	Are the works approved?		Yes / No
	Name:	Signature:	Date:
	Comments:		
Planning Secretary approval (high risk activities)	Are the works approved?		Yes / No
	Name:	Signature:	Date:
	Comments:		

Attachment 2 – Application of OOHW mitigation measures

OOHW period	dB(A)	Mitigation measures
OOHW period 1 Monday–Friday: 6 pm – 10 pm Saturday: 7 am - 8 am and 5 pm – 10 pm Sunday and Public Hol.: 8 am – 6 pm	0-5 dB(A) above NML	Standard mitigation measures: <ul style="list-style-type: none"> • Behavioural practices on site • Equipment selection / maintaining and monitoring plant • Use and siting of plant and hoardings • Site inductions • Use of non-tonal reversing alarms • Notification • Planning noisier work to be carried out earlier in the period
	5-15 dB(A) above NML	Standard mitigation measures: <ul style="list-style-type: none"> • Standard measures as above. Additional mitigation measures: <ul style="list-style-type: none"> • Notification • Respite offer period 1 • Duration respite
	15-25 dB(A) above NML	Standard mitigation measures: <ul style="list-style-type: none"> • Standard measures as above Additional mitigation measures: <ul style="list-style-type: none"> • Notification • Verification • Respite offer period 1 • Duration respite
	>25 dB(A) above NML	Standard mitigation measures: <ul style="list-style-type: none"> • Standard measures as above. Additional mitigation measures: <ul style="list-style-type: none"> • Notification • Verification • Individual briefing • Respite offer period 1 • Duration respite • Phone calls • Specific notifications

OOHW period	dB(A)	Mitigation measures
OOHW period 2 Monday– Friday: 10 pm – 7 am Saturday: 10 pm - 8 am Sunday and Public Hol. 6 pm – 7 am	0-5 dB(A) above NML	Standard mitigation measures: <ul style="list-style-type: none"> • Behavioural practices on site • Equipment selection / maintaining and monitoring plant • Use and siting of plant and hoardings • Site inductions • Use of non-tonal reversing alarms • Notification • Planning noisier work to be carried out earlier in the period
	5-15 dB(A) above NML	Standard mitigation measures: <ul style="list-style-type: none"> • Standard measures as above. Additional mitigation measures: <ul style="list-style-type: none"> • Notification • Verification • Respite offer period 2 • Duration respite
	15-25 dB(A) above NML	Standard mitigation measures: <ul style="list-style-type: none"> • Standard measures as above Additional mitigation measures: <ul style="list-style-type: none"> • Notification • Verification • Individual briefing • Respite offer period 2 • Duration respite • Phone calls • Specific notifications
	>25 dB(A) above NML	Standard mitigation measures: <ul style="list-style-type: none"> • Standard measures as above. Additional mitigation measures: <ul style="list-style-type: none"> • Notification • Verification • Individual briefing • Respite offer period 2 • Duration respite • Phone calls • Specific notifications • Alternative accommodation

Table of hours (standard, OOH, Highly affected noise hours, respite periods)

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1 AM	1 AM	1 AM	1 AM	1 AM	1 AM	1 AM
2 AM	2 AM	2 AM	2 AM	2 AM	2 AM	2 AM
3 AM	3 AM	3 AM	3 AM	3 AM	3 AM	3 AM
4 AM	4 AM	4 AM	4 AM	4 AM	4 AM	4 AM
5 AM	5 AM	5 AM	5 AM	5 AM	5 AM	5 AM
6 AM	6 AM	6 AM	6 AM	6 AM	6 AM	6 AM
7 AM	7 AM	7 AM	7 AM	7 AM	7 AM	7 AM
8 AM	8 AM	8 AM	8 AM	8 AM	8 AM	8 AM
9 AM	9 AM	9 AM	9 AM	9 AM	9 AM	9 AM
10 AM	10 AM	10 AM	10 AM	10 AM	10 AM	10 AM
11 AM	11 AM	11 AM	11 AM	11 AM	11 AM	11 AM
12 PM	12 PM	12 PM	12 PM	12 PM	12 PM	12 PM
1 PM	1 PM	1 PM	1 PM	1 PM	1 PM	1 PM
2 PM	2 PM	2 PM	2 PM	2 PM	2 PM	2 PM
3 PM	3 PM	3 PM	3 PM	3 PM	3 PM	3 PM
4 PM	4 PM	4 PM	4 PM	4 PM	4 PM	4 PM
5 PM	5 PM	5 PM	5 PM	5 PM	5 PM	5 PM
6 PM	6 PM	6 PM	6 PM	6 PM	6 PM	6 PM
7 PM	7 PM	7 PM	7 PM	7 PM	7 PM	7 PM
8 PM	8 PM	8 PM	8 PM	8 PM	8 PM	8 PM
9 PM	9 PM	9 PM	9 PM	9 PM	9 PM	9 PM
10 PM	10 PM	10 PM	10 PM	10 PM	10 PM	10 PM
11 PM	11 PM	11 PM	11 PM	11 PM	11 PM	11 PM
12 AM	12 AM	12 AM	12 AM	12 AM	12 AM	12 AM

Legend

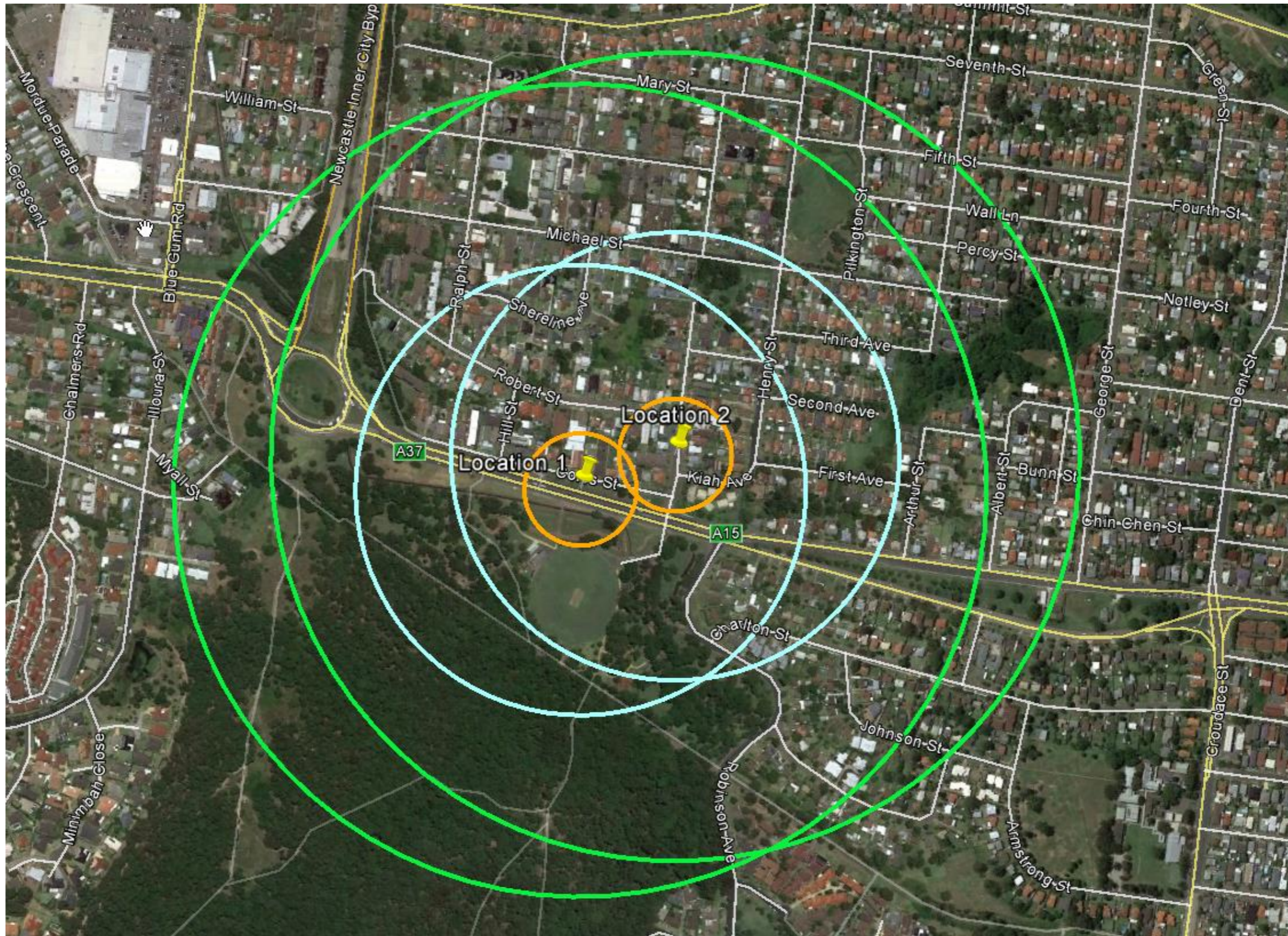
Standard hours (CoA E26)	
Monday to Friday	7 am to 6 pm
Saturday	8 am to 5 pm
Highly affected noise hours (CoA E30)	
Monday to Friday	8 am to 6 pm
Saturday	8 am to 1 pm
OOHW Day	
Saturday	7 am to 8 am and 5 pm to 6 pm
Sundays and public holidays	8 am to 6 pm
OOHW Evening	
Monday to Sunday and public holidays	6 pm to 10 pm
OOHW Night	
Monday to Saturday	10 pm to 7 am
Sundays and public holidays	10 pm to 8 am
Respite Periods	
OOHW period 1	
Monday to Friday	6 pm – 10 pm
Saturday	7 am - 8 am and 5 pm – 10 pm
Sunday and public holidays	8 am – 6 pm
OOHW period 2	

Monday to Friday	10 pm – 7 am
Saturday	10 pm (Sat) - 8 am (Sun)
Sunday and public holidays	6 pm (Sun) – 7 am (Mon)

Figure 1 – Works Location



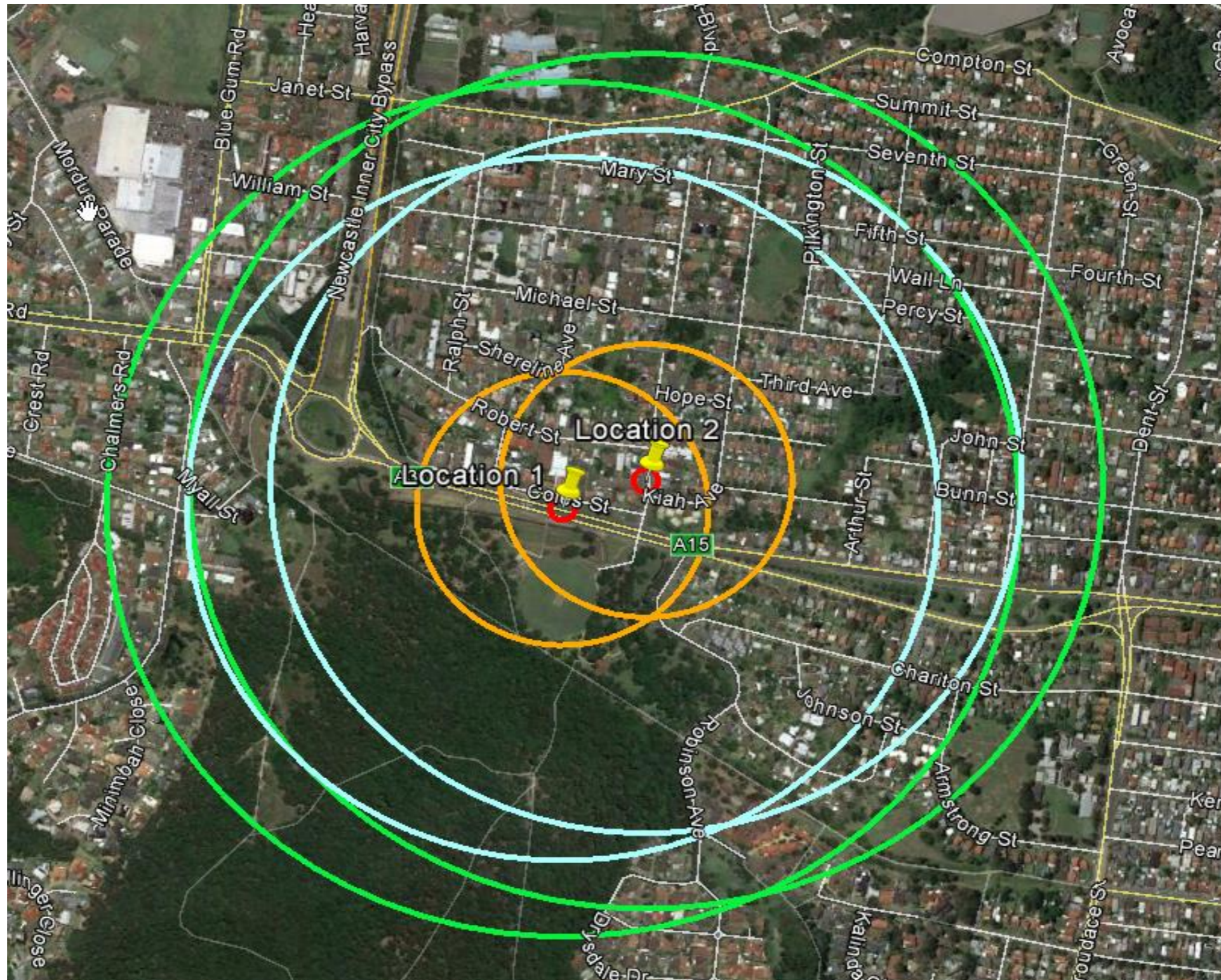
Figure 2– OOHW Evening Period – No Attenuation Applied



* 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

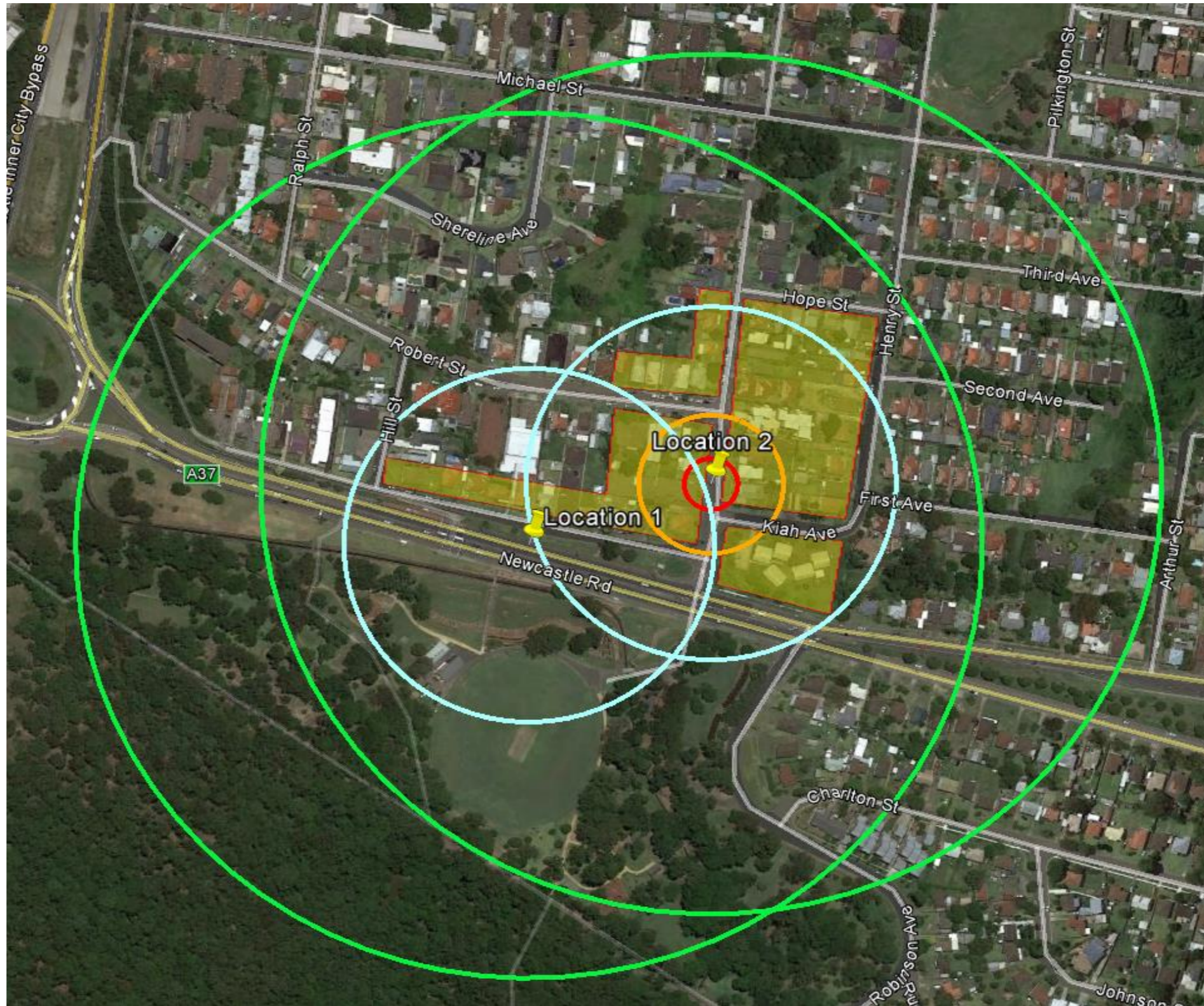
Figure 3– OOHW Night Period – No Attenuation Applied



* 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 – Attenuation Applied



* 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	310	Green
Audible	10 - 20	127	Cyan
Moderately Intrusive	20 - 30	51	Orange
Highly Intrusive	>30	19	Red