NICB RP2J - OOHW approval request form

Out of hours work approval request form			
No:	**Notification date:**	**Approval date:**	**Project:**
005	**20/01/2019**	**TBC**	**Newcastle Inner City Bypass – Rankin Park to Jesmond**
A. Contact details	**Name**	**Mobile number**	**Email**
Environmental Site Representative	[redacted]	[redacted]	[redacted]
Construction Manager	[redacted]	[redacted]	[redacted]
Project Engineer	[redacted]	[redacted]	[redacted]
B. Details of work: Include a map showing location of work extent and nearest sensitive receivers	Location (Chainage):		Southern interchange – Lookout Road from about 50 north of Grandview Road to 80 metres north of McCaffrey Drive. Southern interchange – McCaffrey Drive intersection with Lookout Road to about 350 metres west on McCaffrey. Northern interchange – Newcastle Road roundabout. Refer further detail for location of proposed night time pothole investigation sites at **Attachment 3a to Attachment 3b**.
	NCA/s:		NCA 4, NCA 5 and NCA 13
	Description of works:		Geotechnical investigation by test pits and boreholes for design to verify ground conditions at various locations. It is anticipated that up to four test pits and nine boreholes investigation sites would occur in the vicinity of the southern interchange on Lookout Road and McCaffery Drive. Up to a further six test pit investigations sites would occur on Newcastle Road and the existing section of the Newcastle Inner City Bypass in the vicinity of the northern interchange. It would be anticipated that at least two investigation sites would be completed during a single night shift and take between three and four hours to complete. Under a worst case scenario (ie unexpected ground conditions eg rock, inaccurate records of services, substantial depth), this may extend up

Out of hours work approval request form		
		to an entire night shift.
	Machinery/ plant to be used	• 1 x Truck-mounted drill rig • 1 x small to medium sized excavator or backhoe • 1 x Water cart • 2 x Support vehicle • Lighting as required
	Traffic control measures required:	Shoulder or single lane closures where investigations are located on or immediately adjacent to existing road pavement. Traffic control would only be set up on one carriageway at any one time. Actual constraints would be detailed in the Road Occupancy Licence (ROL), but typically include speed limit reductions (ie 40km/h) at the approach and departure area of individual investigations sites. Drill rig or backhoe or excavator and support vehicles would be parked in the shoulder or adjacent verge, while the slow lane would provide a safety buffer between the investigation site and public road users.
	Lighting required:	Additional lighting such as day makers are not proposed. It is considered that there is sufficient street lighting in the area that would be supplemented with hand-held torches, helmet torches and other similar portable lighting where required.
	Proposed dates:	This OOHW activity is scheduled to occur between 28 January and 7 February 2020. Work would be confined to week day nights. It is anticipated this activity will require 7 nights, with contingency of 2 nights to accommodate unexpected circumstances or wet weather.

Out of hours work approval request form		
	Proposed timings:	Start: 7:30pm Completion: 6am All elements of geotechnical investigations would occur during OOHW period 1 (ie 6pm to 10pm) and OOHW period 2 (ie 10pm to 7am). Priority would be given to undertaking noisier activities earlier during each shift ie prior to 10pm where possible. Up to three to four hours at each investigation site. Under a worst case scenario this may extend to a full night shift
	Justification - why does work need to occur outside of standard construction hours?: (attach support information as required)	Up to 23 geotechnical investigation sites require completion at night due to constraints imposed by the Traffic Management Centre (TMC) which does not allow reduced speed limits or single lane closures on arterial roads when traffic demand is high ie day time periods.
C. Risk assessment	**Noise** – A risk assessment has been undertaken using the Roads and Maritime *Construction Noise and Vibration Guide* (Roads and Maritime Services, 2016) and associated noise estimator tool (refer **Attachment 4a and Attachment 4b**) to predict noise impact at various distances from each investigation site during the night time OOHW period. The input data for noise calculations included: • Relevant Noise Catchment Area (NCA) specific RBLs • Type and quantity of plant and equipment Predicted noise levels were compared to the table in **Attachment 2 – Application of OOHW Mitigation Measures** of the Out of Hours Protocol when determining the application of Standard and Additional mitigation measures. **Vibration** – Plant required to undertake the geotechnical investigation OOHW activity is not of a vibration inducing type and would not encroach on minimum safe working distances. Based on the proximity of the investigation sites to residential receivers, light and heavy vehicles on the road network would remain the predominant source of vibration.	

Out of hours work approval request form	
NML (refer Table 3-2 of OOHW protocol)	**Noise catchment area 4** Evening – 51 Night – 41 **Noise catchment area 5** Evening – 56 Night – 46 **Noise catchment area 13** Evening – 54 Night – 38
Is the work highly noise intensive? (above 75dB($A_{)}$ LAeq (15 minute))	No The highly noise affected level of 75 dB(A) has been predicted to occur at distance of less than 6 metres and 8 metres in NCA 13 for boreholes and test pits respectively (the NCA with the lowest night time RBL / refer **Attachment 4b**). There are no investigation sites at or near this distance to sensitive receivers in any of the noise catchments where night work is proposed.
Risk factor category (low or high):	Low High Comments In accordance with the risk factors nominated in Table 3.1 of the OOHW protocol, this work activity is considered to be high risk due to the following: • More than 5dB$A_{Leq(15minutes)}$ above the Rating Background Level (RBL) Other risk factors associated with the investigation activity fall within the low risk category, that is: • On one or two occasions • No impulsive or tonal noise vibration
D. Details of noise or vibration assessment completed:	Comments: **Noise modelling** A noise assessment has been undertaken using the Roads and Maritime *Construction Noise and Vibration Guide* (Roads and Maritime Services, 2016) and associated noise estimator tool (refer **Attachment 4a and Attachment 4b**) to predict noise impact at various distances from each investigation site during the night time OOHW period. Modelling was confined to this period (between 10pm and 7am) as this represents the time during which the predicted impact on sensitive receivers is considered greatest (ie the largest impact area within each catchment). The model is also considered conservative as it evaluates a worst case scenario where all plant and equipment is operating continuously and simultaneously for the nominated OOHW period. **Attenuation applied to modelling** As the noise estimator tool provides predictions based on a direct line of sight to receivers, and therefore does not consider the effects of topography or other attenuation provided by physical structures (eg solid walls, fences and

intervening buildings such as other residential receivers) a scaled shielding correction has been applied based on distance to compensate for the built-up urbanised landscape. The shielding corrections applied to each respective catchment include:

Noise catchment area 4

- 10 dBA for distances greater than 150 metres for test pit investigations
- 5 dBA for distance greater than 60 metres but less than 150 metres for test pit investigations

Noise catchment area 5

- 10 dBA for distances greater than 80 metres for borehole investigations
- 10 dBA for distances greater than 100 metres for test pit investigations
- 5 dBA for distance greater than 25 metres but less than 80 metres for borehole investigations
- 5 dBA for distance greater than 35 metres but less than 100 metres for test pit investigations

Noise catchment area 13

- 10 dBA for distances greater than 160 metres for borehole investigations
- 10 dBA for distances greater than 200 metres for test pit investigations
- 5 dBA for distance greater than 65 metres but less than 160 metres for borehole investigations
- 5 dBA for distance greater than 80 metres but less than 200 metres for test pit investigations

Noise modelling results

Detailed noise calculations and results for the OOHW night time period are provided in **Attachment 4a and Attachment 4b**. A summary of these results is provided below:

Noise catchment area 4

- Test pit investigation activities are predicted to be noticeable (ie <5 above background) at distances up to 150 metres
- Test pit investigation activities are predicted to be clearly audible (ie +5 above NML) at distances up to 95 metres
- Test pit investigation activities are predicted to be moderately intrusive (ie +15 above NML) at distances up to 60 metres
- Test pit investigation activities are not predicted to achieve “highly noise affected” levels at any sensitive receiver.

Noise catchment area 5

- Borehole and test pit investigation activities are predicted to be noticeable (ie <5 above background) at distances up to 80 metres and 100 metres, respectively
- Borehole and test pit investigation activities are predicted to be clearly audible (ie +5 above NML) at distances up to 45 metres and 60 metres, respectively
- Borehole and test pit investigation activities are predicted to be moderately intrusive (ie +15 above NML) at distances up to 25 metres and 35 metres, respectively
- Investigation activities are not predicted to achieve “highly noise affected” levels at any sensitive receiver.

Out of hours work approval request form	
	Noise catchment area 13 • Borehole and test pit investigation activities are predicted to be noticeable (ie <5 above background) at distances up to 160 metres and 200 metres, respectively • Borehole and test pit investigation activities are predicted to be clearly audible (ie +5 above NML) at distances up to 105 metres and 125 metres, respectively • Borehole and test pit investigation activities are predicted to be moderately intrusive (ie +15 above NML) at distances up to 65 metres and 80 metres, respectively • Investigation activities are not predicted to achieve "highly noise affected" levels at any sensitive receiver. For perspective, Roads and Maritime have produced a "managing noise" fact sheet that provides a visual representation of commonly experience noise levels (refer **Attachment 5**). Based on the above, sensitive receivers within 60 metres in NCA 4, 35 metres in NCA 5 and 80 metres in NCA 13, would be predicted to experience noise levels from test pit investigations between that equivalent to a business office and a motor vehicle travelling down an average 40km/h street at 7 metres ie between 50 and 60 dBA. It should be recognised that this would be under a worst case scenario where all equipment is operating simultaneously and continuously for the period the investigation is in progress. As discussed previously, this would only occur for short periods of time at any one investigation location with work at each site typically completed within three to four hours.
E. Proposed Mitigation Measures	**Standard mitigation measure for all catchments** • Borehole and test pit investigation work carried out during standard working hours wherever road occupancy licence constraints are not imposed • Administrative controls, induction / tool box training sessions • Noisier tasks to be carried out earlier in the night shift (during evening or day period) where feasible eg saw cutting • Plant and equipment turned off when not in use • Plant and equipment serviced regularly and operated in accordance with the manufacture's specifications • Non-tonal reversing alarms (squawkers) used instead of reversing beepers • Radios used for communication to prevent the need for yelling • Designated vehicle parking away from sensitive receivers **Specific and additional mitigation measures** ***Noise catchment area 4*** • Standard consultation requirement predicted for distances of 150 metres or less • Representative verification noise monitoring at distances up to 95 metres • Targeted notification which may include individual briefing, phone call or specific notification predicted for distances of 60m or less ***Noise catchment area 5*** • Standard consultation requirement predicted for distances of 100 metres or less • Representative verification noise monitoring at distances up to 60

Out of hours work approval request form	
	metres • Targeted notification which may include individual briefing, phone call or specific notification predicted for distances of 35m or less ***Noise catchment area 13*** • Standard consultation requirement predicted for distances of 200 metres or less • Representative verification noise monitoring at distances up to 125 metres • Targeted notification which may include individual briefing, phone call or specific notification predicted for distances of 80 metres or less The specific and additional mitigation measures identified above are defined in Section 4 of the Out of Hours Protocol.
F. Community Consultation carried out including details of community feedback and how this has been addressed	Consultation letters have been delivered to all potentially impacted receivers (refer to TfNSW Consultation Register) and no relevant concerns have been raised to date. In addition to the above written consultation, individual briefings were completed with available residents (refer to TfNSW Consultation Register). Note that not all residents were available, however calling cards were left and TfNSW shall meet with residents where requested. Whilst out of the individual briefing zone for these specific OOHW, TfNSW phoned the resident at 136 Lookout Road to discuss the works in the general area and to follow up on the written notification provided to them. The resident returned a TfNSW message and stated that they did not have any specific mitigation requirements for the proposed OoHW works. The above community consultation did not result in any objections or requests for specific mitigation. One resident did have queries about the broader RP2J project and TFNSW shall re-engage with them on that unrelated matter.
G. Respite framework – dates of previous respite periods, OOHW period 1 or 2, community agreements etc	Specific respite is not proposed as work at individual investigation sites would be completed within a single shift, typically between three and four hours. It would not be expected that any one sensitive receiver would experience noise impacts from borehole or test pit investigation works (from multiple investigation sites) for more than two nights.
H. Details of non-residential receivers (if any) and corresponding NMLs	Non-residential land uses are primarily located in the vicinity of Jesmond roundabout. These comprise a mixture of retail outlets, other commercial activities (eg hotels). An NML of 70 has been applied to these properties which align with office and retail outlets. Properties comprising short-term accommodation adopt the residential NMLs for the respective NCAs. There are no noise sensitive receivers (refer to NSW ICNG) with the proposed impact areas (note that the Anglican Church on Coles Street is out to notification zone).

Out of hours work approval request form			
I. Are there any properties at risk of exceeding the screening criteria for cosmetic damage?	Plant required to undertake borehole and test pit investigation OOHW activities are not of a vibration inducing type and would not encroach on minimum safe working distances. Based on the proximity of the investigation sites to residential receivers and non-residential receivers, light and heavy vehicles on the road network would remain the predominant source of vibration.		
E. Review/ Endorsements			
Community Liaison Representative	Community notified: Yes, via letters to be distributed 21 January 2020 (refer to Consultation Register and Individual Briefings provide on 22 January 2020.		Date: 22/01/2020
	Additional consultation requirements:		
	Have the works been reviewed and endorsed?		Yes ~~/ No~~
	Name:	Signature:	Date:
	[redacted]	[redacted]	22/01/2020
	Comments: Nil other actions as no responses provided to TfNSW.		
Roads and Maritime Environmental Manager (or delegate)	Agreed mitigation measures:		
	Have the works been reviewed and endorsed?		Yes ~~/ No~~
	Name:	Signature:	Date:
	[redacted]	[redacted]	22/01/20
	Comments: Action any post approval community feedback received. Similar lack of community feedback or concern as per previous consultation (inclusive of 136 Lookout Road). Nil specific additional requirements in addition to standard mitigations and consultation.		
Roads and Maritime Project Manager	Have the works been reviewed and endorsed?		Yes ~~/ No~~
	Name:	Signature:	Date:
	[redacted]	[redacted]	22/01/20
	Comments: None.		
ER approval (low risk activities)	Are the works approved?		Yes / No
	Name:	Signature:	Date:

Out of hours work approval request form			
	Comments:		
Planning Secretary approval (high risk activities)	Are the works approved?		Yes / No
	Name:	Signature:	Date:
	Comments:		

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:** • 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:** • Standard measures as above. **Additional mitigation measures:** • Notification • Respite offer period 1 • Duration respite
	15-25 dB(A) above NML	**Standard mitigation measures:** • Standard measures as above **Additional mitigation measures:** • Notification • Verification • Respite offer period 1 • Duration respite
	>25 d(B)A above NML	**Standard mitigation measures:** • Standard measures as above. **Additional mitigation measures:** • 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:** • 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:** • Standard measures as above. **Additional mitigation measures:** • Notification • Verification • Respite offer period 2 • Duration respite
	15-25 dB(A) above NML	**Standard mitigation measures:** • Standard measures as above **Additional mitigation measures:** • Notification • Verification • Individual briefing • Respite offer period 2 • Duration respite • Phone calls • Specific notifications
	>25 d(B)A above NML	**Standard mitigation measures:** • Standard measures as above. **Additional mitigation measures:** • 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)

Attachment 3a: Noise Catchment Area 4/5 borehole and test pit investigation night work consultation area

Borehole nightwork NCA5

NCA5 borehole additional notification 25m

NCA5 borehole standard notification 80m

Data attribution
Imagery: Nearmap under licence to Hills Environmental
Data: Supplied by Roads and Maritime Service

0 5 10 20 30 40 Meters

NSW GOVERNMENT

Newcastle Inner City Bypass
Rankin Park to Jesmond

hills environmental

Noise catchment area 5
Borehole night work notification areas

Prepared for: Roads and Maritime Service

Date:18 November 2019

Noise affected receivers NCA4 test pit

Test pit nightwork NCA4

NCA4 test pit standard notification 150m

NCA4 test pit additional notification 60m

Data attribution
Imagery: Nearmap under licence to Hills Environmental
Data: Supplied by Roads and Maritime Service

0 10 20 40 60 80 Meters

NSW GOVERNMENT

Newcastle Inner City Bypass
Rankin Park to Jesmond

hills environmental

Noise catchment area 4
Test pit night work notification areas

Prepared for: Roads and Maritime Service

Date:18 November 2019

Noise affected receivers NCA5 test pit
Test pit nightwork NCA5
NCA5 test pit standard notification 100m
NCA5 test pit additional notification 35m

Data attribution
Imagery: Nearmap under licence to Hills Environmental
Data: Supplied by Roads and Maritime Service

0 5 10 20 30 40 Meters

NSW GOVERNMENT

Newcastle Inner City Bypass
Rankin Park to Jesmond

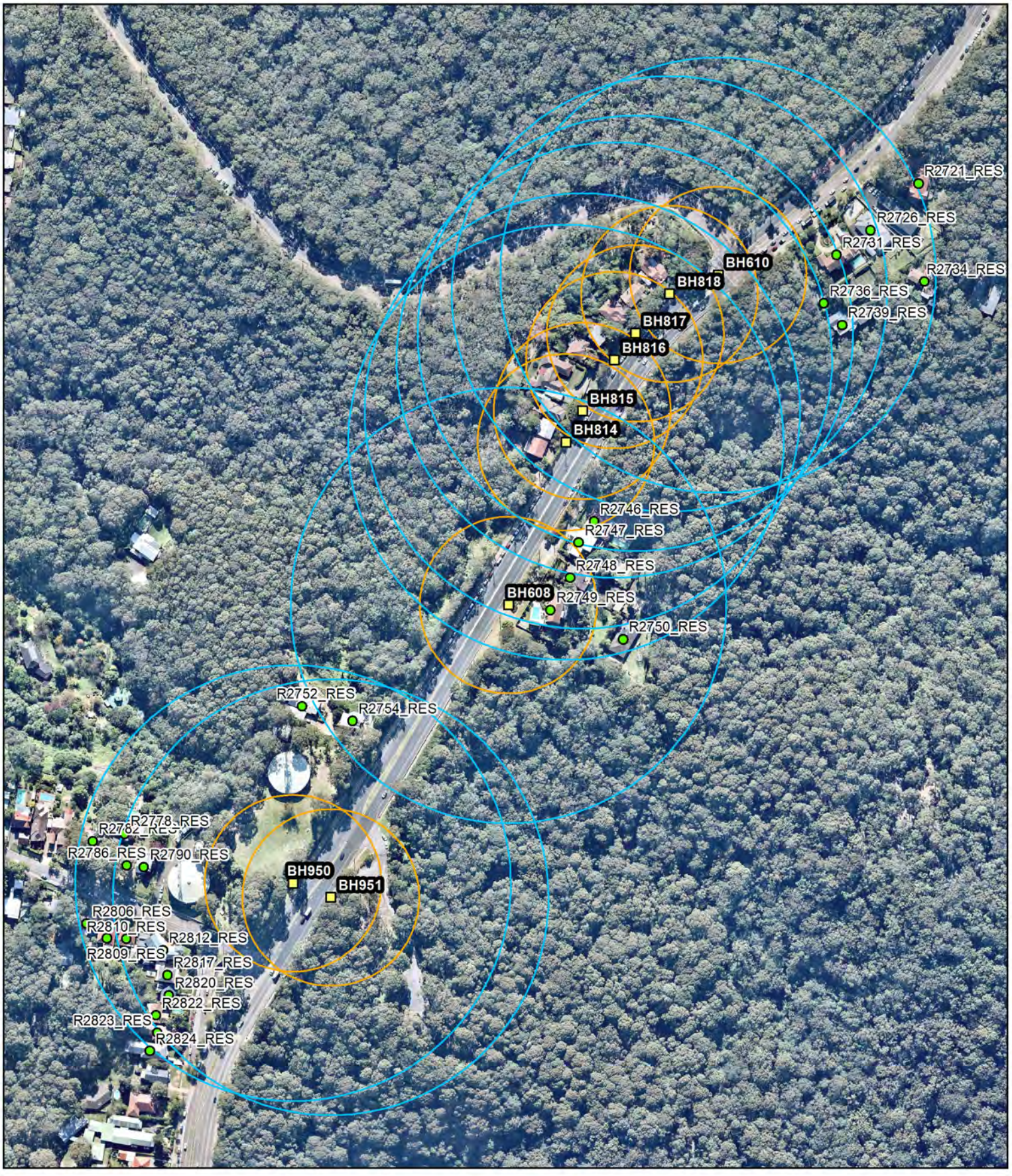
hills environmental

Noise catchment area 5
Test pit night work notification areas

Prepared for: Roads and Maritime Service

Date:18 November 2019

Attachment 3b: Noise Catchment Area 13 borehole and test pit investigation night work consultation area



Noise affected receivers NCA13 borehole
Boreholes nightwork NCA13
NCA13 borehole standard notification 160m
NCA13 borehole additional notification 65m

Data attribution
Imagery: Nearmap under licence to Hills Environmental
Data: Supplied by Roads and Maritime Service

0 20 40 80 120 160 Meters

NSW GOVERNMENT

Newcastle Inner City Bypass
Rankin Park to Jesmond

hills environmental

Noise catchment area 13
Borehole night work notification areas

Prepared for: Roads and Maritime Service

Date:18 November 2019

Noise affected receivers NCA13 test pit
Test pit nightwork NCA13
NCA13 test pit standard notification 200m
NCA13 test pit additional notification 80m

Data attribution
Imagery: Nearmap under licence to Hills Environmental
Data: Supplied by Roads and Maritime Service

0 25 50 100 150 200 Meters

NSW GOVERNMENT

Newcastle Inner City Bypass
Rankin Park to Jesmond

hills environmental

Noise catchment area 13
Test pit night work notification areas

Prepared for: Roads and Maritime Service

Date:18 November 2019