



Warrell Creek to Nambucca Heads – Pacific Highway Upgrade Project

ENVIRONMENT PROTECTION AUTHORITY MONTHLY REPORT

■ January 2017

Pacifico Project Number: WC2NH



A team consisting of RMS and Pacifico (ACCIONA Ferrovia JV) to upgrade the Pacific Highway at Warrell Creek to Nambucca Heads

Contents

1. Introduction	2
2. Weather	5
3. Surface Water Monitoring	9
4. Sediment Basin Water Monitoring	11
5. Noise Monitoring	13
6. Vibration Monitoring	13
7. Dust Monitoring	13
8. Groundwater Monitoring	14
9. Acoustic Investigations	15
10. Complaints	15
11. Non-Compliance	16

1. Introduction

Environmental Protection Licence (EPL) 20533 was issued to ACCIONA Infrastructure for the Warrell Creek to Nambucca Heads Pacific Highway Upgrade project on the 16th December 2014. Condition R1.8 of the EPL requires the licensee to provide the EPA with a monthly report containing the following information:

- a) details of all non-compliances with the conditions of this licence and measures taken, or proposed, to prevent a recurrence of such a non-compliance; and
- b) details of all discharges from the sediment basins where the water quality results exceed the limits prescribed by Condition L2.4 including the results of rainfall measurements to demonstrate compliance with Condition L2.5; and
- c) details of results of any acoustic investigation made in relation to Condition L4.2d); and

The report referred to in this condition must be received by the EPA within 10 working days of the end of each month.

This document has been prepared to fulfil the requirements of Condition R1.8.

1.1 Description of Works

The project's construction activities during January 2017 were limited to the following:

- Bitumen sealing work
- Clearing and Grubbing
- Topsoil stripping
- Earthworks
- Continuing bridge works including piling, headstock construction, pile caps, girder placement, deck unit installation and temporary work platforms
- Installation of monitoring instruments – settlement plates
- Continuing drainage works
- Scour rock installation
- Continuing utility works
- Batter stabilisation using hydromulch (permanent design seed mix)
- Landscape Planting
- Topsoil Amelioration and Blending
- Concrete Lined Drains
- Basin Decommissioning
- Basin Maintenance including dewatering
- Installation of Erosion and Sediment Controls
- Pavement (Asphalt and Concrete)
- Line marking

Works scheduled for next month include

- Earthworks including crushing
- Installation and commissioning of second concrete batch plant in the southern portion of the Project

- Installation and commissioning of Asphalt Batch plant in the Albert Drive compound site
- Continuing bridge works including piling, headstock construction, pile caps, girder placement, deck unit installation and temporary work platforms
- Landscape Planting
- Continuing drainage works
- Scour rock installation
- Continuing utility works
- Batter stabilisation using hydromulch (permanent design seed mix)
- Topsoil Amelioration and Blending
- Concrete Lined Drains
- Basin Decommissioning
- Basin Maintenance including dewatering and desilting
- Installation of Erosion and Sediment Controls
- Paving operations including Asphalt and concreting
- Line marking Pavement (Asphalt and Concrete)

1.2 Consultation Activities

The project’s consultation activities during January 2017 included the following:

Table 1 – Consultation Activities

Groups	Date	Key Topics
Environmental Review Group	17 January 2017	Construction Progress, Design Update, Upcoming Works, Environmental Update, Monitoring Update, Out of Hours Works, Incidents and Community Complaints
Toolboxes	Wednesdays each week	Workforce behavioural issues examined and impact management tips provided, as appropriate. eg. good housekeeping prior to Christmas shutdown, and also a thank you for good work all year.
North Facing Ramps group	10am Monday tri-weekly – sessions held 9 and 30 January 2017	Three week look-ahead for construction activities and general project discussion.

Other Consultation Activities:

- Consulted and logged any issues from 9 property owners regarding change in use of stockpile area at Gate 3 to temporary rock crushing activity from late February
- Distributed notification for new Albert Drive bridge opening and bus stop relocation (twice, following date change)

- Distributed notification to more than 1100 properties for Scotts Head Road traffic stoppages due to girder lifts for Lower Warrell Creek bridge (twice, following date change)
- Issued 10 x text messages to up to 145 community members, and emergency/essential services personnel during week of traffic stoppages (associated with previous point, girder lifts)
- Gained agreement from 5 residents for Bald Hill Road out of hours concreting and broader notification to 60 other residents
- Gained agreement from 7 residents for Nambucca River bridge out of hours concreting, with further notifications distributed to 20 residents
- Gained agreement from 2 residents for out of hours for Upper Warrell Creek bridgeworks
- Distributed responses to seven individuals who provided submissions in relation to the southern compound temporary asphalt plant
- Ongoing and timely notifications and traffic alerts for night time girder deliveries through Macksville in early January

At House Noise Treatments

The at house noise treatment program is currently being managed by RMS and is not part of the ACCIONA (Pacifico) Scope of Works and Technical Criteria.

Upcoming Community and stakeholder activities:

- Recommence North Facing Ramps regular roadside community meetings from 9 January (tri-weekly)
- Announce RMS approval to community for construction of asphalt plant
- Notify traffic diversion for Bald Hill Road
- Seek one agreement and then more broadly notify regarding out of hours for northern batch plant
- Seek agreements for two out of hours line-marking activities for mid-February
- Seek agreements for out of hours work for the southern compound temporary asphalt plant
- Quarry access Pacific Highway girder lift communications plan and notifications
- Signposting communications plan (tie into mid-year Community Information Sessions)
- Identify community groups for specific presentation of key messages second half of 2017
- RMS and Pacifico milestone planning session 31 January kicked off timeframes for communication activities final 12-months of project.

2. Weather

2.1 Discussion

The automatic recording weather stations at the main site compounds (north and south) records rainfall totals daily at 9AM. The total rainfall received for the month is as follows: -

Table 2 - Precipitation

Month	Total monthly rainfall	Location
01/01/17 – 31/01/17	74.4mm	Northern Compound
01/01/17 – 31/01/17	63.6mm	Albert Drive Compound

The site experienced a total of 14 rain days throughout the month of January 2017.

During January, rainfall received on site was lower than the January monthly average of 146.9mm. A summary of weather conditions recorded over the month for Smoky Cape by the Bureau of Meteorology is detailed below in Table 2.3.

The daily summaries for rainfall received in January at the Albert Drive Compound and Northern Compound are shown below in Table 2.1 and 2.2.

Table 2.1 – Rainfall recorded at Albert Drive Southern Compound Automated Weather Station

January 2017

Date	Time	TOTAL Rain Gauge (mm)
1/01/2017	9:00:00	0
2/01/2017	9:00:00	1
3/01/2017	9:00:00	1.6
4/01/2017	9:00:00	3.4
5/01/2017	9:00:00	2.4
6/01/2017	9:00:00	2.8
7/01/2017	9:00:00	0.2
8/01/2017	9:00:00	2.4
9/01/2017	9:00:00	0
10/01/2017	9:00:00	0
11/01/2017	9:00:00	0
12/01/2017	9:00:00	0
13/01/2017	9:00:00	18
14/01/2017	9:00:00	0
15/01/2017	9:00:00	13.8
16/01/2017	9:00:00	3.8
17/01/2017	9:00:00	0
18/01/2017	9:00:00	0
19/01/2017	9:00:00	2
20/01/2017	9:00:00	0.2
21/01/2017	9:00:00	6.4
22/01/2017	9:00:00	0
23/01/2017	9:00:00	0
24/01/2017	9:00:00	0
25/01/2017	9:00:00	0
26/01/2017	9:00:00	0
27/01/2017	9:00:00	5.6
28/01/2017	9:00:00	0
29/01/2017	9:00:00	0
30/01/2017	9:00:00	0
31/01/2017	9:00:00	0

Table 2.2 – Rainfall recorded at the Northern Compound Automated Weather Station

January 2017

Date	Time	TOTAL Rain Gauge (mm)
1/01/2017	9:00:00	0
2/01/2017	9:00:00	2.6
3/01/2017	9:00:00	1.8
4/01/2017	9:00:00	1.6
5/01/2017	9:00:00	2.2
6/01/2017	9:00:00	8.2
7/01/2017	9:00:00	0.4
8/01/2017	9:00:00	0.8
9/01/2017	9:00:00	0
10/01/2017	9:00:00	0
11/01/2017	9:00:00	0
12/01/2017	9:00:00	5.2
13/01/2017	9:00:00	0.2
14/01/2017	9:00:00	0.2
15/01/2017	9:00:00	23
16/01/2017	9:00:00	7.4
17/01/2017	9:00:00	0
18/01/2017	9:00:00	0
19/01/2017	9:00:00	7.6
20/01/2017	9:00:00	0.4
21/01/2017	9:00:00	5
22/01/2017	9:00:00	0
23/01/2017	9:00:00	0
24/01/2017	9:00:00	0
25/01/2017	9:00:00	0
26/01/2017	9:00:00	0.8
27/01/2017	9:00:00	6.6
28/01/2017	9:00:00	0.4
29/01/2017	9:00:00	0
30/01/2017	9:00:00	0
31/01/2017	9:00:00	0

Table 2.3: Weather conditions recorded in January 2017 at Smoky Cape by the Bureau of Meteorology.

January 2017			
Date	Minimum temperature (°C)	Maximum temperature (°C)	Rainfall (mm)
1/01/2016	17.8	27.9	0
2/01/2016	17.8	27.5	0
3/01/2016	18.4	24.1	0
4/01/2016	17	26.8	27.8
5/01/2016	19	23	6.6
6/01/2016	18.8	26.5	18.4
7/01/2016	17.8	25.5	1
8/01/2016	17.5	27.6	0
9/01/2016	19	28.5	0
10/01/2016	19.2	28.4	0
11/01/2016	21	26.8	0
12/01/2016	22	30.5	0
13/01/2016	21.5	30.5	0
14/01/2016	23	27	0
15/01/2016	19.5	20	0
16/01/2016	15.4	26.2	19.7
17/01/2016	16.2	27	4.2
18/01/2016	17.9	28.2	0.8
19/01/2016	20		0
20/01/2016	20.2	27.2	0
21/01/2016	22	27.6	0
22/01/2016	21.5	27.8	0
23/01/2016	22.5	31	5.2
24/01/2016	19.9	29.3	7.2
25/01/2016	21.7	30	0
26/01/2016	19.8	28	69
27/01/2016	19.1	27.7	2.2
28/01/2016	20	25.1	2.8
29/01/2016	20.4	29.4	7.6
30/01/2016	21.2	30.5	1.6
31/01/2016	24	30.5	0

3. Surface Water Monitoring

Pacifico have been provided trigger levels for baseline monitoring from RMS, these will be compared against monthly data as well as between upstream and downstream sites to determine works impact.

Monthly sampling was undertaken by ACCIONA (Pacifico):

Dry Sampling Event

A "dry" sampling event was undertaken on the 10th January 2017, field testing and lab sampling was undertaken. Results are attached in Appendix A.

pH levels noted to be outside of trigger levels at:

Upper Warrell Creek recorded elevated pH levels upstream (8.27) and downstream (8.15). It is noted that levels decreased from upstream to downstream sites and are thus unlikely to be attributed to construction impacts. All controls were in place for the site, with no activities undertaken within the waterway.

Stony Creek recorded elevated pH levels upstream (8.22) and downstream (7.8). It is noted that levels decreased from upstream to downstream sites and are thus unlikely to be attributed to construction impacts. All controls were in place for the site, with no activities undertaken within the waterway. It is also noted that these levels are within ANZECC criteria (pH 6.5-8.0).

Lower Warrell Creek recorded elevated pH levels upstream (7.48) and downstream (7.46). It is noted that levels decreased from upstream to downstream sites and are thus unlikely to be attributed to construction impacts. All controls were in place for the site, with no activities undertaken within the waterway. It is also noted that these levels are within ANZECC criteria (pH 6.5-8.0).

Nambucca River recorded elevated pH levels upstream (7.97) and downstream (7.98). All controls were in place, with no works being undertaken within the waterway. The elevated levels are thus unlikely to be attributable to construction activities. It is noted that the trigger levels for Nambucca River are pH 7, with anything outside of this result being outside of trigger levels. It is also noted that these levels are within ANZECC criteria (pH 6.5-8.0).

Turbidity (NTU) noted to be above trigger levels at:

Upper Warrell Creek recorded elevated levels upstream (16.9 NTU) and downstream (25.8 NTU). All controls were verified to be in place for the site, with no activities being undertaken within the waterway.

Dissolved Oxygen (DO) noted to be below trigger levels at:

Lower Warrell Creek downstream (3.01mg/L). All controls were verified to be in place for the site, with no construction activities undertaken within the waterway. The reduced levels may be due to decaying vegetative matter within the waterway.

Nambucca River upstream (3.65mg/L) and downstream (3.92mg/L). All controls were verified to be in place for the site, with no activities being undertaken in the waterway.

Metals levels noted to be above trigger levels at:

Stony Creek recorded elevated manganese upstream (0.116mg/L) and downstream (0.127mg/L), iron upstream (1.06mg/L) and downstream (1.11mg/L). All controls were in place for the site, with no activities undertaken within the waterway. Elevated levels are possibly as a result of a source further upstream due to the minimal change in levels between upstream and downstream sites.

Lower Warrell Creek recorded elevated levels of nickel upstream (0.004mg/L). All controls were in place for the site, with no activities undertaken within the waterway. The elevated levels are possibly as a result of natural variation within the waterway.

Nutrient levels noted to be above trigger levels at:

Nambucca River recorded elevated levels of ammonia downstream (0.15mg/L). All controls were in place for the site, with no construction activities undertaken within the waterway.

TSS levels noted to be above trigger levels at:

Stony Creek downstream (6mg/L). It is noted that levels decreased from upstream to downstream sites with no construction activities undertaken within the waterway. It is also noted that this is only marginally above trigger levels (5.8mg/L) and is also within ANZECC criteria (<40mg/L).

Wet Sampling Event

A "wet" sampling event (>10mm in 24 hours) was undertaken on the 16th January 2017, field testing and lab sampling was undertaken. Results are attached in Appendix A.

pH levels noted to be outside of trigger levels at:

Lower Warrell Creek recorded elevated pH levels upstream (7.33) and downstream (7.37). It is noted that no construction activities were being undertaken within the waterway, and there was only a marginal increase from upstream to downstream sites. It is also noted that these results are within ANZECC criteria (pH 6.5-8.0).

Nambucca River recorded elevated pH levels upstream (7.93) and downstream (7.99). It is noted that no construction activities were being undertaken within the waterway, and there was only a marginal increase from upstream to downstream sites. It is also noted that these results are within ANZECC criteria (pH 6.5-8.0).

Turbidity (NTU) noted to be above trigger levels at:

Nambucca River upstream (44.5 NTU) and downstream (31.2 NTU). It is noted that levels decreased from upstream to downstream sites and are thus unlikely to be attributed to construction impacts. It is also noted that wind chop along the bank was stirring sediment from the bank up, which may have increased NTU levels above trigger levels.

Dissolved Oxygen (DO) noted to be below trigger levels at:

Stony Creek upstream (2.03mg/L) and downstream (2.07mg/L). It is noted that levels increased from upstream to downstream sites and are unlikely to be attributed to construction impacts. A potential reason for this could be a build-up of vegetative matter in the extended dry period previous to this wet event, resulting in decreased DO levels once this entered the waterway.

Lower Warrell Creek upstream (2.34mg/L) and downstream (3.28mg/L). It is noted that levels increased from upstream to downstream sites and are unlikely to be attributed to construction impacts. Decaying vegetative matter within the waterway potentially contributed to the results.

Nambucca River upstream (3.48mg/L) and downstream (3.07mg/L). All controls were in place for the site with no construction activity within the waterway. A potential reason for this could be a build-up of vegetative matter in the extended dry period previous to this wet event, resulting in decreased DO levels once this entered the waterway.

Metals noted to be above trigger levels at:

Stony Creek recorded elevated levels of manganese upstream (0.089mg/L) and downstream (0.118mg/L). All controls were verified to be in place for the site, with no construction activities undertaken within the waterway. It is noted that these levels are well within ANZECC criteria (1.9mg/L).

Nutrients noted to be above trigger levels at:

Upper Warrell Creek recorded elevated ammonia upstream (0.04mg/L) and downstream (0.03mg/L), total phosphorus downstream (0.07mg/L). All controls were in place for the site, with no activity being undertaken within the waterway. Decaying vegetation within the waterway is a potential source for these elevated levels. It is noted that ammonia levels are well within ANZECC criteria (0.9mg/L). It is also noted that ammonia levels decreased from upstream to downstream sites, and are unlikely to be attributed to construction impacts.

Nambucca River recorded elevated ammonia downstream (0.12mg/L). All controls were in place for the site, with no activity being undertaken within the waterway. It is also noted that ammonia levels were well within ANZECC criteria (0.9mg/L).

4. Sediment Basin Water Monitoring

Water was released from commissioned sediment basins after rainfall events on the 2nd, 8th, 13th and 16th January 2017. A statistical correlation has been developed which identified the relationship between Turbidity (NTU) and Total Suspended Solids (TSS) for water quality in the WC2NH Project sediment basins in order to determine the NTU equivalent of 50mg/L TSS. This statistical correlation has been developed to meet EPL Licence No 20533 Condition L2.7 to determine compliance with the Water and/or Land Concentration Limits Condition L2.4. A positive correlation has been calculated between Total Suspended Solids (TSS) and Turbidity (NTU) ($R^2 = 0.5953$, $p < 0.00001$, $n=184$). The regression equation for the analytical results calculates a turbidity (NTU) value of 124.776 for a TSS value of 50mg/L. A safety factor of 30% has been applied to the NTU result of the correlation, providing a turbidity (NTU) value of 87.3432, rounded to an NTU value

of 85. To measure NTU in the field a Horiba U-52G multi-parameter water quality meter has been utilised, which is maintained and calibrated in accordance with manufacturer’s specifications. TSS sampling is being undertaken to ensure compliance with 1 in 10 sampling to validate the correlation.

Table 3 below has the water quality results recorded for the water release events:

Table 3 – Water Release Register January 2017

Date	Basin ID	Oil and Grease (visible) (Limit = No visible)	pH (6.5-8.5)	Turbidity (NTU) (Limit <90 NTU)	TSS (mg/L) (Limit <50mg/L)	Approx Volume Discharged (kL)	Comments
3/01/2017	B47.96	N	8.03	10.2		600	
9/01/2017	B60.5	N	7.96	33.2		100	
14/01/2017	B45.00	N	7.17	25		700	
14/01/2017	B45.50	N	7.38	23.8		500	
14/01/2017	B45.64	N	7.01	50.5		500	
16/01/2017	B42.87	N	6.9	18.5	<5	600	
16/01/2017	B43.37	N	7.1	57.5	10	700	
16/01/2017	B43.75	N	7.3	40.3	<5	400	
16/01/2017	B48.30	N	6.8	7.8	10	400	
17/01/2017	B53.03	N	7.83	22.6		200	
17/01/2017	B60.5	N	7.37	48.6	10	400	
17/01/2017	B60.87	N	7.01	54.3		250	
18/01/2017	B45.00	N	7.94	39.9		300	
18/01/2017	B47.96	N	6.6	12.7		600	
18/01/2017	B48.46	N	6.73	26.7		400	
18/01/2017	B49.20	N	6.75	13.8	5	360	
18/01/2017	B49.67	N	7.58	37.8		400	
18/01/2017	B58.45	N	7.84	21.8	14	400	
19/01/2017	B55.17B	N	7.97	40.1	<5	150	
19/01/2017	B55.8	N	7.85	54.2	10	500	
19/01/2017	B59.6	N	8.18	42.3		100	

19/01/2017	B60.3	N	7.62	56.3		200	
19/01/2017	B61.25	N	6.72	29.4	<5	300	
20/01/2017	B53.03	N	7.81	22.9		50	
20/01/2017	B59.85	N	7.86	43.2		400	
20/01/2017	B853.4	N	7.23	33.6		400	
23/01/2017	B42.30	N	7	3.3		150	
23/01/2017	B45.64	N	8.4	42.8		400	
28/01/2017	B45.00	N	7.88	63.5		400	
28/01/2017	B45.64	N	7.98	49.8		500	

5. Noise Monitoring

Monthly routine construction noise monitoring was undertaken on the 12th and 19th of January 2017 at eight locations near to construction works. Monitoring results are available in Appendix A, Table 2.

All sites were within predicted levels for the activity being undertaken or were not the dominant noise source at the nearest residence.

6. Vibration Monitoring

Vibration monitoring was undertaken at the commencement of vibratory rolling near residents at Old Coast Road on the 11th of January 2017. Monitoring results are contained in Table 5 Appendix A. Results were within building damage limits (5mm/s).

7. Dust Monitoring

Dust deposition gauges (DDG) were placed at nearby sensitive receivers from 2nd December 2016 to 3rd January 2017. DDG results are available in Appendix A.

All dust deposition gauges were below the level of concern for Total Insoluble Matter (TIM) and Ash Content (AC) (4g/m².month or increase of 2g/m²/month) during the monitoring period.

Water cart usage outside of standard construction hours has been utilised to assist with reducing dust emissions from the project, during public holidays on Sundays throughout the Project. Pacifico is progressively stabilising cuts and fills that have reached their final profile.

8. Groundwater Monitoring

ACCIONA (Pacífico) have undertaken groundwater monitoring on 20th and 23rd of January 2017. Field testing and lab sampling was undertaken. The results from the groundwater monitoring is available in Table 4 of Appendix A.

pH levels noted to be outside of trigger levels at:

4BH037a – Cut 12 (6.91). It is noted that this was only slightly above trigger levels (6.508) and that the bore has been relocated from its original location due to it being within the construction footprint.

Conductivity noted to be outside of trigger levels at:

4BH037a – Fill 15 (9.11mS/cm). It is noted that this bore had to be relocated from its original location due to it being within the construction footprint.

Water depth noted to be outside of trigger levels at:

4BH037a – Fill 15 (1.67m from top of casing). It is noted that this bore had to be relocated from its original location due to it being within the construction footprint.

Metals noted to be outside of trigger levels at:

4BH021 – Cut 11 recorded elevated levels of copper (0.129mg/L) and Zinc (0.018mg/L)

4BH037a – Fill 15 recorded elevated levels of arsenic (0.001mg/L). It is noted that these are well below ANZECC criteria (0.024mg/L). It is noted that this bore had to be relocated from its original location due to it being within the construction footprint.

Nutrients noted to be outside of trigger levels at:

4BH037a – Fill 15 recorded elevated levels of nitrogen (3mg/L) and nitrite (0.03mg/L). It is noted that this bore had to be relocated from its original location due to it being within the construction footprint.

Major anions and cations noted to be outside of trigger levels at:

4BH021 – Cut 11 recorded elevated levels of sodium (24mg/L). It is noted that this is only a minor exceedance of trigger levels for the site (18mg/L).

4BH037a – Fill 15 recorded elevated levels of chloride (1570mg/L), sulfate (3080mg/L), bicarbonate (534mg/L), sodium (1530mg/L), potassium (65mg/L), calcium (403mg/L) and magnesium (519mg/L). It is noted that this bore had to be relocated from its original location due to it being within the construction footprint.

9. Acoustic Investigations

Acoustic Investigations (modelling) have been conducted and approved for several Out of Hours Works proposed to model impact on residents during the month of January 2017. A summary of these approvals is below in Table 4.

Table 4 – January Out of Hours Works approved under L4.2 (d) Acoustic Investigation (Modelled)

OOH Request Title	>5dB(A) above background	Approval Date
Wet Curing – Cut 2 Pergola	N	13/1/2017
Washout Concrete Paver CC05	N	17/1/2017
Albert Drive Bridge Finishing Works	N	20/1/2017
Asphalt Batch Plant Assembly	N	20/1/2017
BR12 Abutment Backfill	N	20/1/2017
BR12 Concreting, formwork and reo	N	27/1/2017

Other works outside of standard construction hours already approved under section L4.2 (d) of the EPL that took place during January 2017 were:

- Water cart usage over the weekend
- Running of various pumps and generators approved for use in previous months
- Nambucca River structures concreting works north of Pier 7 approved in previous months
- Washing out of tipper trucks
- Refuelling in designated zones
- Floodplain Bridge 2 concreting works and piling
- Old Coast Road North Bridge concreting works

Acoustic Investigations (field monitoring) have been conducted for several Out of Hours Works during the month of January 2017, results are included in Appendix A. All activities were compliant with predicted levels.

10. Complaints

9.1 Summary of Complaints for the month

23/01/2017 – Resident contacted Pacifico regarding dust from project works nearby blowing onto his property, particularly paddocks where the grass is the primary food for his cattle. Community attended the property immediately, called the nearby supervisor but a water truck was already attending that location. Community discussed this issue further with all nearby supervisors, environment reps and superintendent. A water cart has been designated to this location whilst earthworks are being completed in this location (Fill 15C).

11. Non-Compliance

11.1 Summary of Non-compliances

One (1) Non-Compliance against the ACCIONA Environmental Protection Licence (EPL) 20533 occurred in January 2017

AFJV-NCR-001285

Description of Non-Compliance

Sediment Basin B43.37, an 85th percentile basin, overtopped the spillway on the 16th January 2017 after a rainfall event. The rainfall event was measured at the closest rain gauge as 36mm, below the 85th percentile design rainfall event.

Possible Causes

An isolated storm cell may have caused the B43.37 catchment area to receive more than 36mm.

Remedial Action

A review of the controls in the B43.37 was undertaken on the 16th January 2017 to confirm compliance the the Progressive Erosion and Sediment Control Plan. Soil Conservation Service confirmed that the sediment basin was correctly sized for the required catchment and is compliant with the PESCP. A review of all PESCPs has been undertaken and where no longer required, basins will be removed from the license.

Corrective Action

Sediment Basin B43.37 has been decommissioned and is no longer on the ACCIONA Environmental Protection License 20533.

Table 2 - Noise Monitoring Results January 2017

Date	Time	Location	Rec ID	NCA	NML	Activity	Predicted levels for activity	Laeq	LAFMAX	LAFMIN	LAF10	LAF50	LAF90	Principal sources/ operations	Construction noise dominant?	Corrective actions	Notes
12/01/2017	2:55 PM	Albert Drive	74	1	50	Cut	62	58.5	74.8	46.9	74.9	57.3	54.4	Excavators, tipper	Y	N/A	Within predicted levels
12/01/2017	3:18 PM	Cockburns Lane	16	1	50	Cut	65	49.7	78.7	36.6	53	42.6	39.9	Hand tools	N	N/A	Construction not audible. Noise sources: highway traffic, dog barking, birds
12/01/2017	4:02 PM	Bald Hill Rd	197	3	50	Cut	72	57.3	80	45.4	57.3	53	50.4	Excavator, grader, side tippers	Y	N/A	Within predicted levels
19/01/2017	3:22 PM	Letitia Rd	406	4	59	Cut	74	65.3	78.4	59.6	67.2	64.4	62.2	Excavator loading moxy, graders levelling material	Y	N/A	Within predicted levels
19/01/2017	3:47 PM	Mattick Rd	442	6	44	Cut	62	58.5	76.7	50.5	59.7	55.4	53.1	Excavator, roller, moxy	Y	N/A	Within predicted levels
19/01/2017	2:57 PM	Nursery Rd	415	4	59	Cut	53	53.1	75.6	39.2	49.1	45.7	43.1	Excavator	N	N/A	Construction not audible. Noise sources: highway + local traffic, birds
12/01/2017	3:51 PM	Wallace St	148	3	50	Cut	47	59	70.5	46.7	62.7	54.5	50.2	Excavator	N	N/A	Construction not audible. Noise sources: local + highway traffic
12/01/2017	4:40 PM	Gumma Rd	383	3	50	Bridgeworks	67	48.3	62.7	36.2	51.8	43.8	39.4	Hand tools, excavator, side tippers	Y	N/A	Within predicted levels. Other noise sources: local traffic, highway

Table 3 - Dust Monitoring Results December 2016/ January 2017

Analyte	Time Period	Unit	DDG ID		DDG1	DDG2	DDG3	DDG4	DDG5	DDG6	DDG6N	DDG7	DDG8	DDG9NE	DDG9E	DDG A1	DDG A2
			Start date of sampling	5/12/2016	2/12/2016	2/12/2016	2/12/2016	2/12/2016	2/12/2016	2/12/2016	2/12/2016	2/12/2016	2/12/2016	2/12/2016	2/12/2016	2/12/2016	2/12/2016
			Finish date of sampling	3/01/2017	3/01/2017	3/01/2017	3/01/2017	3/01/2017	3/01/2017	3/01/2017	3/01/2017	3/01/2017	3/01/2017	3/01/2017	3/01/2017	3/01/2017	3/01/2017
		Levels of Concern		LOR													
Ash Content	Current Month	g/m ² .month mg	4 N/A	0.1 1	0.4 6	1.1 20	0.4 7	0.4 8	0.3 6	1.5 29	1.4 27	1 19	NA NA	0.7 13	0.4 7	----	----
	Previous Month	g/m ² .month			0.3	0.8	1	0.7	0.7	4.2	5.7	0.7	1.4	1.4	0.6	----	----
	Change	g/m ² .month	Increase of 2		0.1	0.3	-0.6	-0.3	-0.4	-2.7	-4.3	0.3	NA	-0.7	-0.2	----	----
Combustible Matter	Current Month	g/m ² .month mg	N/A N/A	0.1 1	0.1 3	1.9 37	<0.1 1	<0.1 <1	<0.1 <1	0.4 6	0.7 12	0.3 5	NA NA	1.5 29	0.8 16	----	----
	Previous Month	g/m ² .month			0.1	1.4	1.3	1.1	1.1	7.2	6.7	1	2.3	1.9	1.8	----	----
Total Insoluble Matter (TIM)	Current Month	g/m ² .month mg	4 N/A	0.1 1	0.5 9	3 57	0.4 8	0.4 8	0.3 6	1.9 35	2.1 39	1.3 24	NA NA	2.2 42	1.2 23	----	----
	Change	g/m ² .month	Increase of 2	0.1	-0.1	1.6	-0.9	-0.7	-0.8	-5.3	-4.6	0.3	NA	0.3	-0.6	----	----
Arsenic	Current Month	mg/L		0.001	----	----	----	----	----	----	----	----	----	----	----	<0.001	<0.001
Comments					Beetles in gauge	Beetles in gauge	Driveway gravelled (not sealed anymore). Grass growing around gauge			Beetles in gauge	Beetles + bees in gauge		Numerous flying ants in gauge. Gauge broken in transit to lab	Grass mowed around gauge. Beetles in gauge	Grass mowed around gauge. Numerous beetles in gauge	Beetles in gauge	Beetles in gauge

Figure 1 – Acoustic Investigation (Modelling) Results January 2017

SoundAdvice

Noise Prediction and Management Tool Pacifi
Warre
Chain

Noise Impact Assessment Report

Report Details

Report Date:	23/11/2016	Report Reference:	Concreting - eastern to
Company:	Pacifica	Prepared by:	M.Rutherford

Proposed Works

Date of Proposed Works:	Nov-April	Time of Proposed Works:	4am-7am M-F, 4-6 Sat
Description of Works:	Work Duration:		

Noise Prediction Details

Expected Meteorological Conditions			
Wind Speed	Medium (10 - 16)	Wind Direction	South West
Cloud Cover	Clear	Temperature (Degrees C)	10 - 20 °C
Relative Humidity (%)	< 55%	Time of Day	Night (7pm-6am M-F, 4

Proposed Equipment

Location	Number of Fleet	Equipment	Usage Factor	Total Sound Power
Location 14	3	Concrete Agitator	1	96
Location 14	1	Vibrating Screenshot	0.5	101
Location 14	3	Concrete Vibrator	0.5	93
Location 14	1	Curing compound trailer	1	94
Location 14	4	UV's	<25%	75
Location 14	1	Bacihoe-Cox 580 Super LE-Mowing with alarm	0.25	100
Location 14	1	Tipper	<25%	88
Location 14	1	Rattle Gun	0.75	109

Noise Predictions

Receiver ID	Criteria	Predicted LAeq	Exceedance / Risk	Magnitude - dB(A)
112-4 SCOTTS HEAD ROAD, WWAY NSW 2447	40.0	9.4	No / Type 1	
117-15 REID STREET, MACKSVILLE NSW 2447	30.0	10.6	No / Type 1	
131-DR826440, HARRIMANS LANE, MACKSVILLE NSW	30.0	20.8	No / Type 1	
148-1 REID STREET, MACKSVILLE NSW 2447	30.0	17.5	No / Type 1	
151-72 SCOTTS HEAD ROAD, WWAY NSW 2447	40.0	18.7	No / Type 1	
155-26 HARRIMANS LANE, MACKSVILLE NSW 2447	30.0	25.9	No / Type 1	
163-4 SCOTTS HEAD ROAD, WWAY NSW 2447	40.0	11.8	No / Type 1	
171-34 HARRIMANS LANE, NSW	30.0	27.3	No / Type 1	
180-58 HARRIMANS LANE, MACKSVILLE NSW 2447	30.0	32.3	No / Type 1	
186-41 BALD HILL ROAD, MACKSVILLE NSW 2447	30.0	38.5	No / Type 1	
192-38 KERR DRIVE, MACKSVILLE NSW 2447	30.0	30.8	No / Type 1	
193-KERR DRIVE, MACKSVILLE NSW 2447	30.0	38.8	No / Type 1	
194-DP1014120, KERR DRIVE, MACKSVILLE NSW 24	30.0	25.7	No / Type 1	
197-54 BALD HILL ROAD, MACKSVILLE NSW 2447	30.0	76.3	Yes / Type 5	37.8
261-18 CONNORS CRESCENT, MACKSVILLE NSW 24	30.0	26.6	No / Type 1	
266-2 AINSWORTH CLOSE, MACKSVILLE NSW 2447	30.0	47.9	Yes / Type 4	5.9
302-88 BALD HILL ROAD, MACKSVILLE NSW 2447	30.0	27.7	No / Type 1	
342-228 SCOTTS HEAD ROAD, WWAY NSW 2447	30.0	27.3	No / Type 1	

Risk:

- Type 1 - Complies with assessment criteria
- Type 2 - Low Risk - 0 to 2 dB(A) above assessment criteria
- Type 3 - Moderate Risk - 2 to 5 dB(A) above assessment criteria
- Type 4 - High Risk - More than 5 dB(A) above assessment criteria

Notes:

Name: _____

Date: _____

Signature: _____

Position: _____

Required Mitigation Measures:

SoundAdvice

Noise Prediction and Management Tool

Pacific
Warre
Chain.

Noise Impact Assessment Report

Report Details

Report Date: 23/11/2016
 Company: Pacifico
 Report Reference: Concreting Works - We
 Prepared by: N.Rutherford

Proposed Works

Date of Proposed Works: Nov - April
 Description of Works: Time of Proposed Works: 4am-7am, 6-7pm M-F, 4am-4pm Sa Work Duration:

Noise Prediction Details

Expected Meteorological Conditions

Wind Speed: Medium (10 - 16)
 Wind Direction: South West
 Cloud Cover: Clear
 Temperature (Degrees C): 10 - 20 ° C
 Relative Humidity (%): < 55%
 Time of Day: Night (7pm-6am M-F, 4

Proposed Equipment

Location	Number of Plant	Equipment	Usage Factor	Total Sound Power
Location 13	3	Concrete Agitator	1	96
Location 13	1	Vibrating Screed	0.5	101
Location 13	3	Concrete Vibrators	0.5	93
Location 13	1	Curing Compound trailer	1	94
Location 13	4	LV's	<25%	75
Location 13	1	Backhoe-Case 580 Super LE-Moving with alarm	0.25	100
Location 13	1	Tipper	<25%	88
Location 13	1	Rattle Gun	0.75	103

Noise Predictions

Receiver ID	Criteria	Predicted LAeq	Exceedance / Risk	Magnitude - dB(A)
112-4 SCOTTS HEAD ROAD, WAY WAY NSW 2447	40.0	9.8	No / Type 1	
117-15 REID STREET, MACKSVILLE NSW 2447	39.0	24.7	No / Type 1	
131-DPB26440, HARRIMANS LANE, MACKSVILLE NSW	39.0	26.4	No / Type 1	
140-1 REID STREET, MACKSVILLE NSW 2447	39.0	24.7	No / Type 1	
151-72 SCOTTS HEAD ROAD, WAY WAY NSW 2447	40.0	14.4	No / Type 1	
155-26 HARRIMANS LANE, MACKSVILLE NSW 2447	39.0	27.2	No / Type 1	
163-4 SCOTTS HEAD ROAD, WAY WAY NSW 2447	40.0	12.2	No / Type 1	
175-34 HARRIMANS LANE, NSW	39.0	37.7	No / Type 1	
180-58 HARRIMANS LANE, MACKSVILLE NSW 2447	39.0	39.7	Yes / Type 2	0.7
186-41 BALD HILL ROAD, MACKSVILLE NSW 2447	39.0	43.7	Yes / Type 3	4.7
192-38 KERR DRIVE, MACKSVILLE NSW 2447	39.0	17.7	No / Type 1	
193-KERR DRIVE, MACKSVILLE NSW 2447	39.0	38.2	No / Type 1	
194-DP1014123, KERR DRIVE, MACKSVILLE NSW 24	39.0	22.8	No / Type 1	
197-54 BALD HILL ROAD, MACKSVILLE NSW 2447	39.0	43.0	Yes / Type 3	4.0
201-13 CONNORS CRESCENT, MACKSVILLE NSW 24	39.0	19.8	No / Type 1	
206-2 AINSWORTH CLOSE, MACKSVILLE NSW 2447	39.0	34.2	No / Type 1	
302-98 BALD HILL ROAD, MACKSVILLE NSW 2447	39.0	16.9	No / Type 1	
342-228 SCOTTS HEAD ROAD, WAY WAY NSW 2447	36.0	24.6	No / Type 1	

Risk:

- Type 1 - Complies with assessment criteria
- Type 2 - Low Risk - 0 to 2 dB(A) above assessment criteria
- Type 3 - Moderate Risk - 2dB(A) to 5dB(A) above assessment criteria
- Type 4 - High Risk - More than 5dB(A) above assessment criteria

Notes:

Name: _____

Date: _____

Signature: _____

Position: _____

Required Mitigation Measures:

SoundAdvice

Noise Prediction and Management Tool

Pacific Highway
Warrell Creek
Chainage

Noise Impact Assessment Report

Report Details

Report Date: 13/01/2017 Report Reference: Wet curing concrete Cu
Company: AFJV Prepared by: JH

Proposed Works

Date of Proposed Works: 15/1-15/6/2017 Time of Proposed Works: 8-4pm Sat, Sun, public holidays Work Duration:
Description of Works: Wet curing requires concrete to be kept wet

Noise Prediction Details

Expected Meteorological Conditions

Wind Speed: Strong (16 - 21) Wind Direction: North West
Cloud Cover: Clear Temperature (Degrees C): 10 - 20 ° C
Relative Humidity (%): < 55% Time of Day: Night (7pm-6am M-F, 4

Proposed Equipment

Location	Number of Plant	Equipment	Usage Factor	Total Sound Power
Location 5	1	1" water pump	1	102
Location 5	1	Ute	<25%	76

Noise Predictions

Receiver ID	Criteria	Predicted LAeq	Exceedance / Risk	Magnitude - dB(A)
1-760 UPPER WARRELL CREEK ROAD, CONGARINNI	40.0	1.2	No / Type 1	
3-800 UPPER WARRELL CREEK ROAD, CONGARINNI	40.0	1.3	No / Type 1	
4-4201 PACIFIC HIGHWAY, EUNGAJ CREEK NSW 244	40.0	4.1	No / Type 1	
5-464 BROWNS CROSSING ROAD, WARRELL CREEK	40.0	7.5	No / Type 1	
6-4227 PACIFIC HIGHWAY, CONGARINNI NSW 2447	40.0	4.8	No / Type 1	
10-4317 PACIFIC HIGHWAY, WARRELL CREEK NSW	40.0	3.0	No / Type 1	
11-4263 PACIFIC HIGHWAY, CONGARINNI NSW 244	40.0	8.2	No / Type 1	
12-4371 PACIFIC HIGHWAY, WARRELL CREEK NSW	40.0	1.5	No / Type 1	
16-DP755562, COCKBURNS LANE, WARRELL CREEK	40.0	15.8	No / Type 1	
19-73 COCKBURNS LANE, WARRELL CREEK NSW 24	40.0	20.2	No / Type 1	
22-4411 PACIFIC HIGHWAY, WARRELL CREEK NSW	40.0	1.3	No / Type 1	
39-4476 PACIFIC HIGHWAY, WARRELL CREEK NSW	40.0	1.1	No / Type 1	
45-4390 PACIFIC HIGHWAY, WARRELL CREEK NSW	40.0	1.4	No / Type 1	
51-196 ALBERT DRIVE, WARRELL CREEK NSW 2447	40.0	1.1	No / Type 1	
55-4478 PACIFIC HIGHWAY, WARRELL CREEK NSW	40.0	1.1	No / Type 1	
59-46 ROSEWOOD ROAD, WARRELL CREEK NSW 24	40.0	1.1	No / Type 1	
60-180 ROSEWOOD ROAD, WARRELL CREEK NSW 2	36.0	5.8	No / Type 1	
64-69 ROSEWOOD ROAD, WARRELL CREEK NSW 24	36.0	1.1	No / Type 1	
66-174 ROSEWOOD ROAD, WARRELL CREEK NSW 2	36.0	2.3	No / Type 1	
68-91 ROSEWOOD ROAD, WARRELL CREEK NSW 24	36.0	6.5	No / Type 1	

Risk:

- Type 1 - Complies with assessment criteria
- Type 2 - Low Risk - 0 to 2 dB(A) above assessment criteria
- Type 3 - Moderate Risk - 2dB(A) to 5dB(A) above assessment criteria
- Type 4 - High Risk - More than 5dB(A) above assessment criteria

Notes:

Worst case wind direction

Name: _____
 Date: _____
 Signature: _____
 Position: _____
 Required Mitigation Measures: _____

SoundAdvice

Noise Prediction and Management Tool

Pacific Highway Upgrade
Warrell Creek to Nambucca Heads
Chainage 56,400 - 58,400

Noise Impact Assessment Report

Report Details

Report Date: 17/01/2017
Company: AFIV
Report Reference: Paver washout 57600 north
Prepared by: JH

Proposed Works

Date of Proposed Works: Time of Proposed Works: 6-8pm Work Duration: M-F
Description of Works: Paver washout after paving run completed

Noise Prediction Details

Expected Meteorological Conditions

Wind Speed: Strong (16 - 21)
Cloud Cover: Clear
Relative Humidity (%): < 55%
Wind Direction: East
Temperature (Degrees C): 10 - 20 °C
Time of Day: Night (7pm-6am M-F, 4pm-7am Sat, all day Sunday)

Proposed Equipment

Location	Number of Plant	Equipment	Usage Factor	Total Sound Power
Location 10	1	Paver washout	0.5	101
Location 10	1	Ute	<25%	76
Location 14	1	Paver washout	0.5	101
Location 14	2	Ute	<25%	76
Location 9	1	Paver washout	0.5	101
Location 9	1	Ute	0.5	83

Noise Predictions

Receiver ID	Criteria	Predicted LAeq	Exceedance / Risk	Magnitude - dB(A)
426-537 OLD COAST ROAD, NORTH MACKSVILLE NS	38.0	10.5	No / Type 1	
490-459 OLD COAST ROAD, NORTH MACKSVILLE NS	38.0	17.9	No / Type 1	
492-469 OLD COAST ROAD, NORTH MACKSVILLE NS	38.0	15.6	No / Type 1	
493-37 SIDING ROAD, NEWEE CREEK NSW 2447	38.0	12.4	No / Type 1	
495-OLD COAST ROAD, NORTH MACKSVILLE NSW 2	38.0	25.1	No / Type 1	
496-539 OLD COAST ROAD, NORTH MACKSVILLE NS	38.0	16.6	No / Type 1	
497-72 SIDING ROAD, NEWEE CREEK NSW 2447	38.0	11.6	No / Type 1	
501-525 OLD COAST ROAD, NORTH MACKSVILLE NS	38.0	20.9	No / Type 1	
503-219 FLORENCE WILMONT DRIVE, NAMBUCCA I	38.0	19.2	No / Type 1	
505-1 SIDING ROAD, NORTH MACKSVILLE NSW 244	38.0	18.3	No / Type 1	
514-197 FLORENCE WILMONT DRIVE, NAMBUCCA I	38.0	13.6	No / Type 1	
515-3 CHARLES PLACE, NAMBUCCA HEADS NSW 24	38.0	15.4	No / Type 1	
518-18 SIDING ROAD, NORTH MACKSVILLE NSW 24	38.0	16.6	No / Type 1	
529-169 FLORENCE WILMONT DRIVE, NAMBUCCA I	38.0	9.6	No / Type 1	
532-23 CHARLES PLACE, NAMBUCCA HEADS NSW 2	38.0	12.2	No / Type 1	
543-33 CHARLES PLACE, NAMBUCCA HEADS NSW 2	38.0	10.0	No / Type 1	

Risk:

- Type 1 - Complies with assessment criteria
- Type 2 - Low Risk - 0 to 2 dB(A) above assessment criteria
- Type 3 - Moderate Risk - 2dB(A) to 5dB(A) above assessment criteria
- Type 4 - High Risk - More than 5dB(A) above assessment criteria

Notes:

Worst case wind direction

Name: _____

Date: _____

Signature: _____

Position: _____

Required Mitigation Measures: _____

SoundAdvice

Noise Prediction and Management Tool

Pacific Highway Upgrade
Warrell Creek to Nambucca Heads
Chainage 58,400 - 61,300

Noise Impact Assessment Report

Report Details

Report Date: 17/01/2017
Company: AFJV
Report Reference: Paver washout 58400-61300
Prepared by: JH

Proposed Works

Date of Proposed Works: Time of Proposed Works: 6-8pm
Description of Works: Paver washout after paving run
Work Duration: M-F

Noise Prediction Details

Expected Meteorological Conditions

Wind Speed: Strong (16 - 21)
Cloud Cover: Clear
Relative Humidity (%): < 55%
Wind Direction: East
Temperature (Degrees C): 10 - 20 °C
Time of Day: Night (7pm-6am M-F, 4pm-7am Sat, all day Sunday)

Proposed Equipment

Location	Number of Plant	Equipment	Usage Factor	Total Sound Power
Location 1	1	Paver washout	0.5	103
Location 1	2	Ute	<25%	76
Location 11	1	Paver washout	0.5	103
Location 11	1	Ute	<25%	76

Noise Predictions

Receiver ID	Criteria	Predicted LAeq	Exceedance / Risk	Magnitude - dB(A)
518-18 SIDING ROAD, NORTH MACKSVILLE NSW 2	38.0	11.5	No / Type 1	
548-3 COCOS COURT, NAMBUCCA HEADS NSW 24	44.0	1.7	No / Type 1	
589-10 ALEXANDRA DRIVE, NAMBUCCA HEADS NSW	44.0	3.3	No / Type 1	
611-15 ALEXANDRA DRIVE, NAMBUCCA HEADS NSW	44.0	2.6	No / Type 1	
618-2 BANGALOW DRIVE, NAMBUCCA HEADS NSW	44.0	2.6	No / Type 1	
639-2 ROYALE COURT, NAMBUCCA HEADS NSW 2	44.0	2.4	No / Type 1	

Risk:
Type 1 - Complies with assessment criteria
Type 2 - Low Risk - 0 to 2 dB(A) above assessment criteria
Type 3 - Moderate Risk - 2dB(A) to 5dB(A) above assessment criteria
Type 4 - High Risk - More than 5dB(A) above assessment criteria

Notes:
Worst case wind direction

Name: _____
Date: _____
Signature: _____
Position: _____
Required Mitigation Measures:

SoundAdvice

Noise Prediction and Management Tool

Pacific High
Warrell Creek
Chainage 45

Noise Impact Assessment Report

Report Details

Report Date: 20/01/2017
Company: Pacifico
Report Reference: Albert Drive Concrete F
Prepared by: N Rutherford

Proposed Works

Date of Proposed Works: 21/1/17
Description of Works: Time of Proposed Works: 7am-3pm
Work Duration:

Noise Prediction Details

Expected Meteorological Conditions

Wind Speed: Strong (16 - 21)
Wind Direction: South West
Cloud Cover: Clear
Temperature (Degrees C): 10 - 20 °C
Relative Humidity (%): < 55%
Time of Day: Extended Hours

Proposed Equipment

Location	Number of Plant	Equipment	Usage Factor	Total Sound Power
Location 9	1	Concrete Pump + Cement Mixer Truck 8 t / 350 bar	0.75	94
Location 9	1	Water Cart	0.5	104

Noise Predictions

Receiver ID	Criteria	Predicted LAeq	Exceedance / Risk	Magnitude - dB(A)
28-425 UPPER WARRELL CREEK ROAD, CONGARIN	45.0	8.4	No / Type 1	
42-395 UPPER WARRELL CREEK ROAD, CONGARIN	45.0	11.8	No / Type 1	
48-13A SONNY'S LANE, WARRELL CREEK NSW 2447	45.0	8.1	No / Type 1	
51-196 ALBERT DRIVE, WARRELL CREEK NSW 2447	45.0	10.6	No / Type 1	
55-447B PACIFIC HIGHWAY, WARRELL CREEK NSW	45.0	8.2	No / Type 1	
57-153 ALBERT DRIVE, WARRELL CREEK NSW 2447	45.0	16.9	No / Type 1	
58-19 ROSEWOOD ROAD, WARRELL CREEK NSW 24	45.0	17.5	No / Type 1	
59-46 ROSEWOOD ROAD, WARRELL CREEK NSW 24	45.0	11.3	No / Type 1	
61-124 ALBERT DRIVE, WARRELL CREEK NSW 2447	45.0	26.4	No / Type 1	
63-115 ALBERT DRIVE, WARRELL CREEK NSW 2447	45.0	37.0	No / Type 1	
64-69 ROSEWOOD ROAD, WARRELL CREEK NSW 24	40.0	12.1	No / Type 1	
68-91 ROSEWOOD ROAD, WARRELL CREEK NSW 24	40.0	8.4	No / Type 1	
71-0P1150527, ROSEWOOD ROAD, WARRELL CREEK	40.0	5.7	No / Type 1	
74-73 ALBERT DRIVE, WARRELL CREEK NSW 2447	45.0	34.0	No / Type 1	
77-62 O'DELLS ROAD, WARRELL CREEK NSW 2447	40.0	19.0	No / Type 1	
81-40 ALBERT DRIVE, DONNELLYVILLE NSW 2447	45.0	25.1	No / Type 1	
89-33 O'DELLS ROAD, DONNELLYVILLE NSW 2447	45.0	16.6	No / Type 1	
93-8 MAIN STREET, DONNELLYVILLE NSW 2447	45.0	18.2	No / Type 1	
100-17 ALBERT DRIVE, DONNELLYVILLE NSW 2447	45.0	12.6	No / Type 1	
111-12 PARKINS CLOSE, WARRELL CREEK NSW 244	40.0	14.1	No / Type 1	

Risk:

- Type 1 - Complies with assessment criteria
 - Type 2 - Low Risk - 0 to 2 dB(A) above assessment criteria
 - Type 3 - Moderate Risk - 2dB(A) to 5dB(A) above assessment criteria
 - Type 4 - High Risk - More than 5dB(A) above assessment criteria
- Notes:

Name: _____
Date: _____
Signature: _____
Position: _____
Required Mitigation Measures:

SoundAdvice

Noise Prediction and Management Tool

Noise Impact Assessment Report

Report Details

Report Date: 20/01/2017
 Company: Pacific
 Report Reference: BR12 Backfill
 Prepared by: N.Rutherford

Proposed Works

Date of Proposed Works: 22/01/17-12/02/17
 Description of Works:
 Time of Proposed Works: 7am-5pm Sundays
 Work Duration:

Noise Prediction Details

Expected Meteorological Conditions
 Wind Speed: Strong (16 - 21)
 Cloud Cover: Clear
 Relative Humidity (%): < 55%
 Wind Direction: South West
 Temperature (Degrees C): 10 - 20 ° C
 Time of Day: Night (7pm-6am M-F, 4

Proposed Equipment

Location	Number of Plant	Equipment	Usage Factor	Total Sound Power
Location 13	1	Excavator 20T - 50T - loading	0.75	108
Location 13	1	xy 30T articulated dump truck-CAT730-Moving forw	0.75	111
Location 13	1	Water Cart	0.25	101
Location 13	3	ooth barrel roller 7T-Dynapac CA15-Moving with ak	0.75	113
Location 13	2	Wacker Packer	0.5	105

Noise Predictions

Receiver ID	Criteria	Predicted LAeq	Exceedance / Risk	Magnitude - dB(A)
518-18 SIDING ROAD, NORTH MACKSVILLE NSW 24	38.0	9.8	No / Type 1	
548-3 COCOS COURT, NAMBUCCA HEADS NSW 244	44.0	26.8	No / Type 1	
589-30 ALEXANDRA DRIVE, NAMBUCCA HEADS NSW	44.0	35.3	No / Type 1	
611-15 ALEXANDRA DRIVE, NAMBUCCA HEADS NSW	44.0	27.3	No / Type 1	
618-2 BANGALOW DRIVE, NAMBUCCA HEADS NSW	44.0	32.0	No / Type 1	
633-2 ROYALE COURT, NAMBUCCA HEADS NSW 24	44.0	32.0	No / Type 1	

Risk:

- Type 1 - Complies with assessment criteria
 - Type 2 - Low Risk - 0 to 2 dB(A) above assessment criteria
 - Type 3 - Moderate Risk - 2dB(A) to 5dB(A) above assessment criteria
 - Type 4 - High Risk - More than 5dB(A) above assessment criteria
- Notes:

Name:
 Date:
 Signature:
 Position:
 Required Mitigation Measures:

SoundAdvice

Noise Prediction and Management Tool

Pacific H
Warrell C
Chainage

Noise Impact Assessment Report

Report Details

Report Date: 8/12/2016 Report Reference: Early Start at Upper Wa
Company: Pacific Prepared by: N.Rutherford

Proposed Works

Date of Proposed Works: Dec 2016 -Feb 2017 Time of Proposed Works: 4am-7am M-F, 4am-8am, 1pm-4pm Work Duration:
Description of Works:

Noise Prediction Details

Expected Meteorological Conditions

Wind Speed: Medium (10 - 16) Wind Direction: South West
Cloud Cover: Clear Temperature (Degrees C): 10 - 20 °C
Relative Humidity (%): < 55% Time of Day: Night (7pm-6am M-F, 4

Proposed Equipment

Location	Number of Plant	Equipment	Usage Factor	Total Sound Power
Location 4	1	Concrete Pump + Cement Mixer Truck 8 l / 350 bar	0.75	94
Location 4	1	Concrete Agitator	0.75	95
Location 4	5	Concrete Vibrator	0.5	97
Location 4	1	Cranes - 50 -100T (165kW)	0.25	98
Location 4	3	Handtools	0.75	93
Location 4	1	BG28 Piling Rig	0.75	104

Noise Predictions

Receiver ID	Criteria	Predicted LAeq	Exceedance / Risk	Magnitude - dB(A)
1-780 UPPER WARRELL CREEK ROAD, CONGARINNI	40.0	17.7	No / Type 1	
3-800 UPPER WARRELL CREEK ROAD, CONGARINNI	40.0	17.0	No / Type 1	
4-4201 PACIFIC HIGHWAY, EUNGAI CREEK NSW 24	40.0	25.0	No / Type 1	
5-464 BROWNS CROSSING ROAD, WARRELL CREEK	40.0	21.0	No / Type 1	
6-4227 PACIFIC HIGHWAY, CONGARINNI NSW 2447	40.0	35.6	No / Type 1	
10-4317 PACIFIC HIGHWAY, WARRELL CREEK NSW	40.0	29.4	No / Type 1	
11-4263 PACIFIC HIGHWAY, CONGARINNI NSW 24	40.0	44.7	Yes / Type 3	4.7
12-4371 PACIFIC HIGHWAY, WARRELL CREEK NSW	40.0	22.9	No / Type 1	
16-0P755562, COCKBURNS LANE, WARRELL CREEK	40.0	39.2	No / Type 1	
19-73 COCKBURNS LANE, WARRELL CREEK NSW 24	40.0	50.6	Yes / Type 5	10.6
22-4411 PACIFIC HIGHWAY, WARRELL CREEK NSW	40.0	20.3	No / Type 1	
39-4476 PACIFIC HIGHWAY, WARRELL CREEK NSW	40.0	15.5	No / Type 1	
45-4390 PACIFIC HIGHWAY, WARRELL CREEK NSW	40.0	19.6	No / Type 1	
51-196 ALBERT DRIVE, WARRELL CREEK NSW 2447	40.0	12.5	No / Type 1	
55-4478 PACIFIC HIGHWAY, WARRELL CREEK NSW	40.0	15.2	No / Type 1	
59-46 ROSEWOOD ROAD, WARRELL CREEK NSW 24	40.0	12.5	No / Type 1	
60-180 ROSEWOOD ROAD, WARRELL CREEK NSW 2	36.0	17.2	No / Type 1	
64-69 ROSEWOOD ROAD, WARRELL CREEK NSW 24	36.0	8.5	No / Type 1	
66-174 ROSEWOOD ROAD, WARRELL CREEK NSW 2	36.0	16.0	No / Type 1	
68-91 ROSEWOOD ROAD, WARRELL CREEK NSW 24	36.0	12.6	No / Type 1	

Risk:

Type 1 - Complies with assessment criteria
Type 2 - Low Risk - 0 to 2 dB(A) above assessment criteria
Type 3 - Moderate Risk - 2dB(A) to 5dB(A) above assessment criteria

Type 4 - High Risk - More than 5dB(A) above assessment criteria

Notes:

Name: _____
Date: _____
Signature: _____
Position: _____

Required Mitigation Measures:

SoundAdvice

Noise Prediction and Management Tool

Noise Impact Assessment Report

Report Details

Report Date: 27/01/2017
 Company: Pacifico
 Report Reference: BR12 Concreting, Instal
 Prepared by: N.Rutherford

Proposed Works

Date of Proposed Works: 27/01/17-31/03/17
 Description of Works: Time of Proposed Works: 5am-7pm M-F, 7am-7pm Sat, 7am-; Work Duration:

Noise Prediction Details

Expected Meteorological Conditions

Wind Speed: Strong (16 - 21)
 Cloud Cover: Clear
 Relative Humidity (%): < 55%
 Wind Direction: South West
 Temperature (Degrees C): 10 - 20 °C
 Time of Day: Night (7pm-6am M-F, 4

Proposed Equipment

Location	Number of Plant	Equipment	Usage Factor	Total Sound Power
Location 13	1	Concrete Pump + Cement Mixer Truck 8 t / 350 bar	0.75	94
Location 13	2	Concrete Agitator	0.75	95
Location 13	5	Electric power tools	0.5	91
Location 13	5	LV's	<25%	75
Location 13	1	Franna - 25T	<25%	93
Location 13	1	EWP	0.5	86
Location 13	1	Compressor	0.5	97
Location 13	4	Concrete vibrators	0.75	99
Location 13	2	Vibrating screed	0.5	101

Noise Predictions

Receiver ID	Criteria	Predicted LAeq	Exceedance / Risk	Magnitude - dB(A)
518-18 SIDING ROAD, NORTH MACKSVILLE NSW 24	38.0	7.5	No / Type 1	
548-8 CODDS COURT, NAMBUCCA HEADS NSW 24	44.0	22.7	No / Type 1	
595-10 ALEXANDRA DRIVE, NAMBUCCA HEADS NSW	44.0	29.8	No / Type 1	
611-15 ALEXANDRA DRIVE, NAMBUCCA HEADS NSW	44.0	22.8	No / Type 1	
618-2 BANGALOW DRIVE, NAMBUCCA HEADS NSW	44.0	26.1	No / Type 1	
632-2 ROYALE COURT, NAMBUCCA HEADS NSW 24	44.0	26.1	No / Type 1	

Risk

Type 1 - Complies with assessment criteria
 Type 2 - Low Risk - 0 to 2 dB(A) above assessment criteria
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 Type 4 - High Risk - More than 5dB(A) above assessment criteria

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