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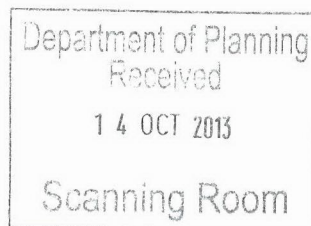


**Transport**  
Roads & Maritime  
Services

11<sup>th</sup> October 2013

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**Attention: Ms. Kylie Seretis**

**HIGHWAY NO 10 – PACIFIC HIGHWAY. BALLINA AND BYRON SHIRE COUNCILS.  
DESIGN AND CONSTRUCTION OF PACIFIC HIGHWAY UPGRADE  
TINTENBAR TO EWINGSDALE, 13.63KM – 29.95KM NORTH OF BALLINA.  
REQUEST FOR MODIFICATION TO MINISTER'S CONDITIONS OF APPROVAL 2.12 –  
EXTENSION TO APPROVED WORKING HOURS**

Dear Kylie,

I refer to the Planning Approval for the Pacific Highway Upgrade, Tintenbar to Ewingsdale of 29 January 2010 from the Minister for Planning received by the then Roads and Traffic Authority (RTA) and in particular Minister's Condition of Approval (MCoA) No 2.12 providing approved construction hours for the project.

I also refer to our discussions with the Department on 17 September 2013 regarding this matter.

As you are aware, Roads and Maritime Services is seeking to modify the approved construction hours for the project.

The Pacific Highway Upgrade, Tintenbar to Ewingsdale was expected to be completed in the second half of 2014. Since the commencement of substantial construction on 24 September 2012 higher than expected wet weather and its effects have significantly affected progress on the works. Up until the end of July a total of 112.5 days out of an available 199 working days (or 57%) have been lost due to wet weather and its effects on the project. Based on 'normal' weather patterns, a further 90 to 120 days could be expected to be lost between now and when construction is completed.. If not mitigated, this has the potential to significantly jeopardise the timely delivery of the project and the achievement of key milestones.

**Roads & Maritime Services**

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As you would be aware completion of the Pacific Highway Upgrade, Tintenbar to Ewingsdale will see completion of dual carriageway conditions between Ballina and the NSW / QLD border – which is a key milestone for both the NSW State and Australian Federal Governments.

A key driver or objective for the project is improved road safety. Since the start of substantial construction a total of 8 serious traffic accidents and four fatalities have occurred within this length of the existing Pacific Highway.

The proposed extension to the approved working hours would potentially allow the project to be completed an estimated 4.2 months earlier than would otherwise be expected.

This earlier completion would be of significant benefit to both Government and the wider community allowing the full spectrum of socio-economic, environmental and road safety outcomes to be realised as soon as possible. It could also be reasonably projected that several serious traffic accidents could be avoided with the earlier completion of the project.

The proposed modification is presented in detail for your review and approval in the enclosed document: *“Modification request for an extension to working hours, Pacific Highway Upgrade Tintenbar to Ewingsdale, October 2013”*.

The proposed modification (shown in italics) to MCoA’s 2.12 is outlined below:

#### **MCoA 2.12 Construction Restrictions**

Construction activities associated with the project shall only be undertaken during the following hours:

- (a) ~~7:00am to 6:00pm~~ 6:30am to 7:00pm, Mondays to Fridays, inclusive;
- (b) ~~8:00am to 4:00pm~~ 7:00am to 4:00pm on Saturdays; and
- (c) at no time on Sundays or public holidays.

~~Notwithstanding the above, construction activities are permitted between the hours of 7:00am and 4:00pm on Saturdays between chainages 134810 and 136000, and including the operation of the Cumbalum and Ross Lane ancillary facilities for Stage 1.~~

This condition does not apply to:

- (i) any works that do not cause construction noise to be audible at any sensitive receiver; or
- (ii) for delivery of materials required outside these hours by the police or other authorities for safety reasons; or
- (iii) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm.

During the development of the above mentioned proposed modification, Roads and Maritime Services and Baulderstone have undertaken an extensive program of consultation with all project stakeholders including directly affected residents, the broader community and agencies. This included public advertising, media releases, notices to the project data base, Variable Message Sign messaging on the Pacific Highway, one on one resident meetings, a specific community information session presentation and environmental review group meeting presentations. Extending the learning’s from the Banora Point project, this including explaining the proposed activities and the potential impacts of the proposed modification.

Agency responses to the proposed modification have also been sought. Comments were received from the Environment Protection Authority (EPA) and further discussions to better understand these comments were had with EPA on 17 September 2013. Responses to these comments have also been included in the proposed modification which has been updated to address all feedback received. Please refer to the enclosed Modification Request for further details of the consultation undertaken as part of this modification request.



While community understanding and support for the proposed modification is considered to be strong, it is recognised that the proposed modification was objected to by a relatively small number of residents and that if unmitigated, it does have the potential to increase impacts in the short term. Noting this the proposed modification also contains significant mitigation measures to ensure impacts are minimised. These include (but are not limited to): -

- restricting the type and timing of high noise and vibration generating activities within 300m of sensitive receivers who have lodged an objection to the proposal;
- the installation of all at-residence noise mitigation to properties prior to the commencement of construction;
- construction of a temporary 2.44m high noise hoarding adjacent to Bangalow in conjunction with the construction of the permanent landscaped earth mound;
- construction of the permanent landscaped earth mound adjacent to Ewingsdale (which is now well advanced);
- construction of a 1.8m high temporary noise barrier / screen adjacent to the Macadamia Castle;
- further consulting with directly affected residents to discuss potential mitigation measures;
- undertaking works in accordance with the approved Construction Environmental Management Plan and Community Consultation Strategy; and
- the project team managing any complaints received to ensure further consultation with the affected resident (or business) regarding additional mitigation measures as may be appropriate which could include respite periods, alternative programming, ceasing of works or short term relocation of residents.

Whilst detailed information regarding the proposed modification and mitigation measures is included in the enclosed document, including a detailed report on the community consultation outcomes and presentation materials, I would also like to take this opportunity to offer you or your staff the opportunity for a briefing regarding the proposal, or alternatively a site visit to the project should this be considered of benefit / assistance to you in your timely assessment of this matter.

In further support of this application, I would like to confirm with you that the project has successfully undertaken and managed with private resident agreements a number of discrete out of hours work activities to date. This has included an over night concrete pour at Emigrant Creek and night time drainage works at Ewingsdale. These activities we completed with positive feedback from residents and issues raised successfully managed to the satisfaction of all involved, demonstrating the project team has a capability (and track record) of successfully managing such extended working hours.

With the onset of day-light saving extending the available light, commencing these extended working hours as soon as possible is critical to realising the above noted benefits, and subject to your satisfactory review of the proposed modifications, it would be appreciated if you could arrange for the necessary approval documentation to be issued as soon as possible so that the benefits of the proposed modification can delivered for all, and as well, the milestones set by the NSW State and Federal governments can be delivered as soon as possible.

Should you require any further information regarding this or any other project matter, please contact the Roads and Maritime Services' Senior Project Manager, Strategic Projects Mr Peter Borrelli on 02 8874 6763 or 0407 254 363 in the first instance.

Yours faithfully



Robert (Bob) Higgins 11/10/13  
General Manager, Pacific Highway  
Encl:



BAULDERSTONE


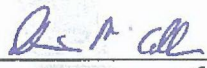
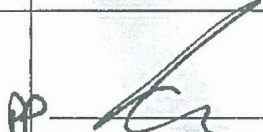

## Modification request for an extension to working hours

### Pacific Highway Upgrade Tintenbar to Ewingsdale

Client: Roads and Maritime Services

Document Number: RPT-ENV-009

|         |                   |                                      |
|---------|-------------------|--------------------------------------|
| 2       | 2 October 2013    | Updated following RMS review         |
| 1       | 26 September 2013 | Updated following RMS and ERG review |
| 0       | 12 August 2013    | Issued for RMS review                |
| Draft 2 | 9 June 2013       | Issued for preliminary RMS review    |
| Draft 1 | 1 March 2013      | Issued for preliminary RMS review    |
| Rev #   | Date              | Description of Change                |

|           |   |  |         |
|-----------|---|--|---------|
| APPROVALS | Prepared By: Kieran METCALFE<br>Environmental Coordinator |   | 2/10/13 |
|           | Reviewed By: Chris McCALLUM<br>Environmental Manager      |   | 2/10/13 |
|           | Approved By: Vince NEWTON<br>Project Director             |   | 2/10/13 |



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## GLOSSARY

| Acronym      | Definition   |
|--------------|--|
| AQMSP        | Air Quality Management Sub-Plan  |
| AS           | Australian Standard  |
| ADT          | Articulated Dump Truck   |
| AVTG         | Assessing Vibration: a Technical Guideline   |
| BOM          | Bureau of Meteorology  |
| CCS          | Community Communications Strategy  |
| CEMP         | Construction Environmental Management Plan   |
| CIS          | Community Information Session  |
| CRMREWH      | Consultation report for modification request for an extension to working hours           |
| CSMREWH      | Communications strategy for modification request for an extension to working hours       |
| CTMSP        | Construction Traffic Management and Safety Plan  |
| DEC          | Department of Environment and Conservation   |
| DECCW        | Department of Environment, Climate Change and Water (now OEH)                            |
| DP&I         | Department of Planning and Infrastructure  |
| EA           | Tintenbar to Ewingsdale Upgrade Environmental Assessment (August 2008)                   |
| EP&A Act     | <i>Environmental Planning and Assessment Act 1979</i>                                    |
| EPA          | Environment Protection Authority   |
| EPL          | Environment Protection Licence   |
| ERG          | Environmental Review Group   |
| EWMS         | Environmental Work Method Statement  |
| FFMSP        | Flora and Fauna Management Sub-Plan  |
| INP          | Industrial Noise Policy (NSW Environment Protection Authority January 2000)              |
| ICNG         | Interim Construction Noise Guideline (Department of Environment and Climate Change 2009) |
| IAP2         | International Association for Public Participation                                       |
| Km/hr        | Kilometres per hour  |
| LAeq(15 min) | Equivalent continuous noise level measured in 15 minute intervals                        |
| Ltd          | Limited  |
| m            | Metre  |
| MCoA         | Minister's Conditions of Approval (29 January 2010)                                      |

| Acronym  | Definition   |
|----------|--|
| MP       | Monitoring Plan  |
| N/A      | Not Applicable   |
| NCA      | Noise Catchment Area                                     |
| NSW      | New South Wales  |
| NVMSP    | Noise and Vibration Management Sub-Plan                  |
| OEH      | Office of Environment and Heritage                       |
| PO       | Post Office  |
| POEO Act | <i>Protection of the Environment Operations Act 1997</i> |
| Pty      | Proprietary  |
| PV       | Project Verifier   |
| RMS      | Roads and Maritime Services                              |
| RTA      | Roads and Traffic Authority (now RMS)                    |
| TCC      | Tunnel Control Centre                                    |
| VDVs     | Vibration Dose Values                                    |
| VMS      | Variable Message Sign                                    |



## ABSTRACT

This report seeks to modify the current approved construction hours for the Pacific Highway Upgrade - Tintenbar to Ewingsdale Project (the Project) as detailed within Ministers Condition of Approval (MCoA) 2.12 as follows (proposed modification is shown in italics):

Construction activities associated with the project shall only be undertaken during the following hours:

- (a) ~~7:00am to 6:00pm~~ 6:30am to 7:00pm, Mondays to Fridays, inclusive;
- (b) ~~8:00am to 1:00pm~~ 7:00am to 4:00pm on Saturdays; and
- (c) at no time on Sundays or public holidays.

~~Notwithstanding the above, construction activities are permitted between the hours of 7:00am and 4:00pm on Saturdays between chainages 134810 and 136000, and including the operation of the Cumbalum and Ross Lane ancillary facilities for Stage 1.~~

This condition does not apply to:

- (i) Any works that do not cause construction noise to be audible at any sensitive receiver; or
- (ii) For delivery of materials required outside these hours by the police or other authorities for safety reasons; or
- (iii) Where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm.

The fundamental benefit of the proposed modification is that the outcomes of the Project could be experienced 4.2 months sooner than would otherwise be achieved. This benefit would be of great value to both the Government and wider community stakeholders as the benefits would allow the vast spectrum of socio-economic and safety outcomes that will be delivered through the completion of the Project to be realised earlier. It can be noted that a total of eight serious traffic incidents and four fatalities generally attributable to the current condition and configuration of the existing Tintenbar to Ewingsdale section of the Pacific Highway have occurred within a 12 month period from the commencement of substantial Project construction. It could be projected that several such future events could be avoided with the earlier completion of the Project.

It can also be noted that inclement weather and its effects has contributed significantly to slow Project progression since the commencement of substantial construction. Inclement weather has resulted in a total of 117.5 lost days being recorded on the Project to mid-August 2013. This equates to approximately 57 per cent lost time. This slow progression has the potential to jeopardise the achievement of Project milestones. As expected wet weather between now and the end of the Project could be anywhere from a further 92 to 120 days and there is a real need for as much productive work as possible to be undertaken on available/sunny days.

The proposal would also result in the following tangible benefits in relation to the earlier delivery of the Project:

- Ensure full advantage is taken of available potential construction hours.
- Provide greater value for State and Federal Government funding.
- Ensure Project timing milestones are achieved.
- Reduce the duration of construction impacts.
- Offset Project delays caused by wet weather.

Consultation with the local community is recognised as the key to ensuring this proposal is cognisant of community issues and identifies appropriate potential mitigation strategies. The proposal applies to specific construction elements within specific areas of the Project as activities would be restricted during certain times within 300 metres of receivers that have lodged an objection to the proposal. Various activities, including some high noise generating activities such as pile trimming, rock crushing and sheet piling would be restricted to ensure that impacts on these receivers are minimised. In addition, the Project would

undertake additional consultation with these residents following commencement of the proposal to identify and manage any issues that may arise.

This report has assessed the potential environmental and community impacts associated with the subject proposal. The proposed works would involve approved Project activities that would take place within the approved Project alignment. This assessment has found that there would be no significant negative environmental or community impacts as a result of the subject proposal. However, the proposed modification to working hours would result in numerous significant positive impacts as detailed within this report.

In relation to the potential minor negative environmental or community impacts, this assessment has found that these impacts are able to be managed in accordance with the approved Project Construction Environmental Management Plan (CEMP) and associated sub-plans.



## SUMMARY

The upgrade of the Pacific Highway between Tintenbar and Ewingsdale is part of the Pacific Highway Upgrade Program being implemented by NSW Roads and Maritime Services (RMS). The upgrade is an important part of the Pacific Highway Upgrade Program as on its completion, the Pacific Highway will be dual carriageway from Ballina to the Queensland border. The Project will deliver safer driving conditions and improve the Pacific Highway's capacity to move people and freight between capital cities. The total Project cost is \$862 million and is jointly funded by the NSW State and Federal governments.

As part of the above program, the Project is anticipated to result in the following beneficial outcomes:

- A safer section of highway.
- Greater transport efficiency and safety for intra-state and inter-state movements.
- Supporting growth and the long-term sustainability of the regional economy.
- Improved access and connectivity for the local community.
- Improved amenity along the existing Pacific Highway.
- Reducing financial costs associated with travel on the Pacific Highway.
- Reducing greenhouse gas emissions in the longer term and energy consumption relative to the base case of 'no upgrade'.

RMS is seeking formal approval from a delegate of the Minister for Planning and Infrastructure (DP&I), to modify the Project Instrument of Approval under section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This report has been prepared to support the request for Ministerial Approval for an extension of approved construction hours on Mondays – Fridays between 6:30am and 7:00am and 6:00pm and 7:00pm inclusive and on Saturdays between 7:00am and 8:00am and 1:00pm and 4:00pm inclusive (the proposal). Details of the proposal are outlined within Section 2.3 of this report.

The fundamental benefit of the proposal is that the above outcomes of the Tintenbar to Ewingsdale Project could be experienced 4.2 months sooner than would otherwise be achieved. This benefit would be of great value to both the Government and wider community stakeholders as the benefits would allow the vast spectrum of socio-economic and safety outcomes that will be delivered through the completion of the Project to be realised earlier.

It can also be noted that the proposal would also result in the following benefits in relation to the faster delivery of the Project:

- Ensure full advantage is taken of available potential construction hours.
- Provide greater value for State and Federal government funding.
- Ensure Project timing milestones are achieved.
- Reduce the duration of construction impacts.
- Offset Project delays caused by wet weather.

Several options were assessed in order to determine the optimal balance between the benefits and impacts that can be experienced through extended working hours. Options considered included 6:30am to 7:00pm Monday to Friday, 7:00am to 6:00pm on Saturdays and 7:00am to 4:00pm on Saturdays. This assessment has found the hours proposed within this report as a combination of the first and third options above with the implementation of additional mitigation measures as detailed within this report to be the most mutually beneficial of available options. It has also been identified that if this scenario was to be implemented it could result in completion of the Project approximately 4.2 months sooner than the current forecast completion date.

Consultation with the local community is recognised as the key to ensuring this proposal is cognisant of community issues and identifies appropriate potential mitigation strategies. As such, a Communications Strategy for Modification Request for an Extension to Working Hours (CSMREWH) has been prepared and implemented in relation to the proposal. The primary purpose of the CSMREWH is to outline the communications activities that have underpinned consultation with residents in relation to the proposal.

Effective consultation has also provided an opportunity to inform the community regarding the proposal and engage affected residents and stakeholders in developing collaborative solutions that would minimise potential impacts.

The following communication tools were used in accordance with the CSMREWH to support community consultation regarding the proposal:

- Letter of notification.
- Feedback form.
- Targeted consultation with key residents and stakeholders.
- Advertisement to advise the community that they could provide comment, and details of how to go about providing comment in relation to the proposal (local print media).
- Media release about extended hours consultation (regional media).
- Community information sessions.
- Community display centre.
- Website updates.
- Project information line (toll free 1800 882 787).
- Project email [communityinfo@t2e.com.au](mailto:communityinfo@t2e.com.au).
- E-alert to a database to inform and invite feedback.
- Variable message signs (VMS) on the existing highway to advertise the proposal and invite feedback.

The results of consultation undertaken in accordance with the CSMREWH to date have been integrated into the Consultation Report for Modification Request for an Extension to Working Hours (CRMREWH) included as Attachment 1 to this assessment. It can be noted from the consultation undertaken in relation to this proposal that the majority (98.11 per cent) of respondents to the proposal have no objection. The potential impacts in relation to objections received have been assessed in the development of this report. This assessment has found that the implementation of the measures contained within the approved CEMP and sub-plans, combined with the measures detailed within Section 4 of this report could be implemented to effectively manage these potential impacts. Measures taken by the Project to manage potential impacts include:

- Various activities, including some high noise and vibration generating activities such as pile trimming, rock crushing and sheet piling would be restricted within 300 metres of receivers which have lodged an objection to the proposal.
- The Project has been proactive in shaping the proposal around community feedback received.
- The Project would continue to be proactive in relation to feedback/complaints regarding the proposal.
- The proposal would include respite provisions as detailed within the NVMSP.

It can also be noted that in relation to works outside standard construction hours undertaken in accordance with the NVMSP, only one complaint has been received to date. With regard to this complaint, it was found that the noise levels attributable to the works were within the noise level goals as detailed within the NVMSP.

Two consultation forums — the monthly Environmental Review Group (ERG) meetings and Community Information Sessions (CIS) — currently provide ongoing opportunities for government agencies and the community to stay informed about environmental aspects of the Project, to keep updated regarding construction and Project information and to provide input and feedback to the Project.

The proposed modification was presented to the ERG on 27 February 2013. At this meeting, the Environment Protection Authority (EPA) suggested that, dependent on activities undertaken, the



provisions of the Project Environment Protection Licence (EPL) would not necessarily need to be amended to accommodate the proposed modification to working hours. The EPA also suggested that the Project should apply the learnings from the Pacific Highway Upgrade – Banora Point, by making the community aware of the potential impacts of the proposed modification prior to its implementation. The EPA suggested that this could be done through the proposed community consultation strategy to be implemented in relation to the modification. No other comments were received from any other ERG member in attendance.

This report has assessed the potential environmental and community impacts associated with the proposal. It can be noted that the proposed works would not involve any construction activities not currently occurring or forecast to take place within the approved Project alignment and would also not include activities that have been identified through the community consultation process that are considered to have an unacceptable impact on nearby receivers. As such, only relevant potential environmental impacts, in addition to those assessed within the Project Environmental Assessment (EA), have been considered within this report.

This assessment has found that there would be no significant negative impacts as a result of the subject proposal. This assessment has also found that potential impacts that may occur could be appropriately managed in accordance with the measures contained within the approved CEMP and sub-plans, combined with the measures detailed within Section 4 of this report. In addition, the proposed modification to working hours would result in numerous significant positive impacts for Project stakeholders and the wider community, as referenced throughout this report.

# 1 INTRODUCTION

## 1.1 Project Background

The upgrade of the Pacific Highway between Tintenbar and Ewingsdale is part of the Pacific Highway Upgrade Program being implemented by NSW Roads and Maritime Services (RMS). The upgrade is an important part of the Pacific Highway Upgrade Program as on its completion, the Pacific Highway will be dual carriageway from Ballina to the Queensland border. The Tintenbar to Ewingsdale Project (the Project) will deliver safer driving conditions and improve the Pacific Highway's capacity to move people and freight between capital cities. The total Project cost is \$862 million and is jointly funded by the NSW State and Federal governments.

The Project site is located approximately 10 kilometres to the north of Ballina. The Project involves the construction of approximately 16.3 kilometres of highway from Ross Lane at Tintenbar and extends north to the existing Ewingsdale interchange, near the settlement of Ewingsdale. At Ross Lane, the upgrade alignment will connect to the northern end of the recently completed Ballina Bypass. Generally the alignment will be in close proximity to the existing highway corridor from Ross Lane to the Bangalow Bypass. The existing highway will be maintained for local and regional traffic.

From Bangalow, the upgrade alignment will diverge to the northeast through the Tinderbox Valley. From there, the upgrade alignment will avoid the steep grades of St Helena Hill by way of a tunnel approximately 434 metres long and 45 metres below the ridge line. North of the tunnel, the alignment will be located immediately to the east of the existing highway before tying into the Ewingsdale interchange.

Key components of the approved Project include:

- Four-lane divided carriageways (two lanes each way), with a wide median allowing for the future addition of a third lane in each direction.
- Connection to the northern end of the completed Ballina Bypass at the Ross Lane interchange. A new northbound on-ramp and a new southbound off-ramp would be provided. The remainder of this interchange has been constructed as part of the Ballina Bypass project.
- Upgrading of the existing Ewingsdale interchange to provide full access between the modified local and regional road network and the highway.
- A half interchange at Bangalow. South-facing ramps would provide access between the local road network, including to Bangalow and Lismore, and the proposed upgrade to the south. This arrangement would replicate the arrangement with the existing Bangalow Bypass which also has south-facing ramps only.
- Six twin bridges and four underpasses allowing roads and creeks to pass underneath the upgrade. These would include twin bridges above Byron, Emigrant and Skinners Creeks and the existing Casino-Murwillumbah railway on the northern side of Byron Creek.
- Two bridges carrying local roads over the upgrade, one for Broken Head Road and one approximately 500 metres north of Lawlers Lane providing access to several properties east of the upgrade. Protection screens would be provided on both bridges.
- Twin parallel tunnels under St Helena ridge (one tunnel for each carriageway). The tunnels would each be approximately 434 metres long and approximately 45 metres below St Helena Road.
- Construction of a Tunnel Control Centre (TCC) associated with the St Helena tunnels.
- Retention of the existing highway as a continuous road for local and regional traffic.
- Installation of signage providing clear directions for traffic at the Ross lane, Bangalow and Ewingsdale interchanges.



- Relocation of a number of public utilities and services.

Figure 1 provides an overview of the Project location.

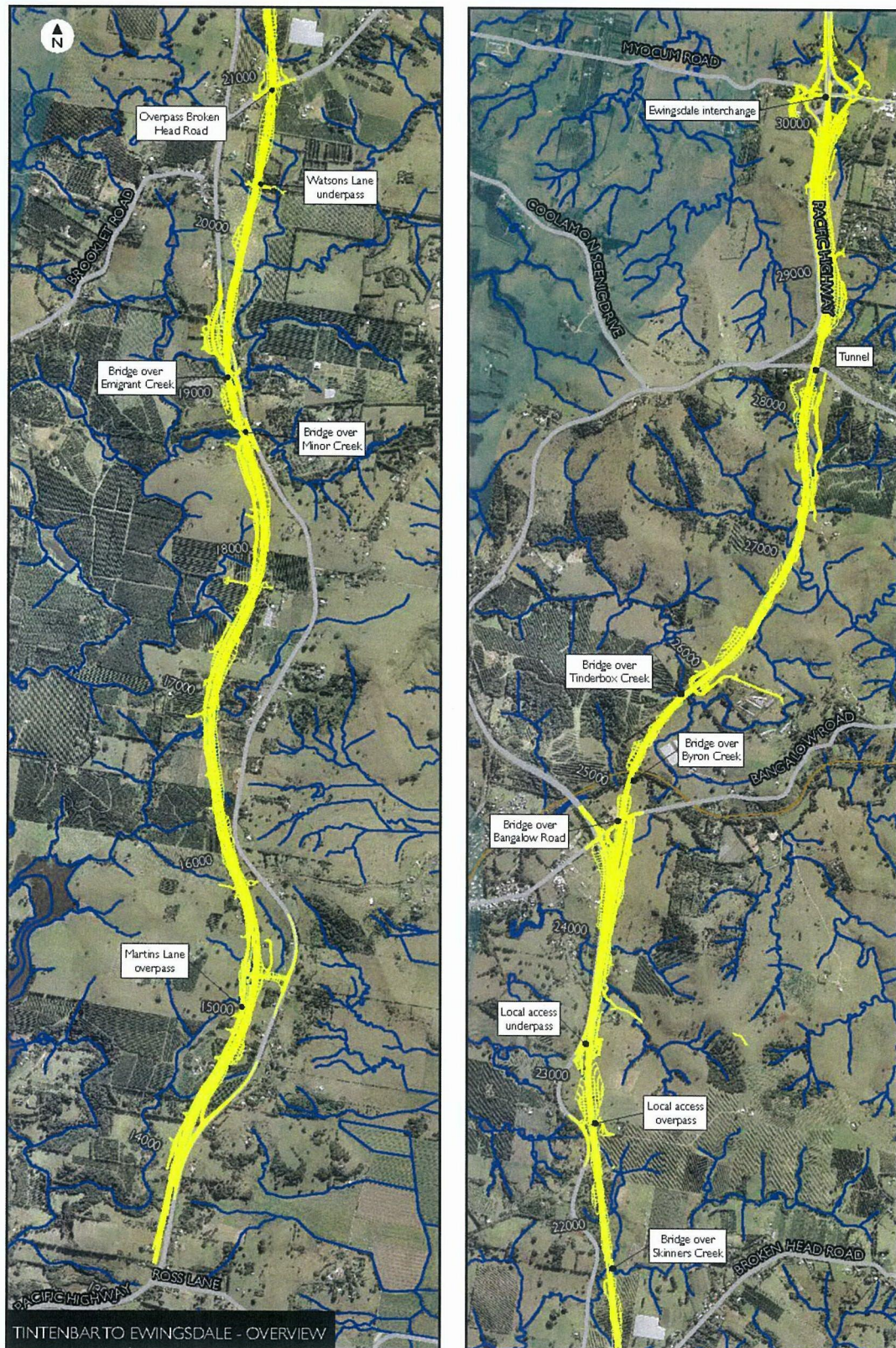


Figure 1 - Project overview



## 1.2 Project Planning and Approval Background

The following sections detail and consider the two most relevant pieces of legislation that relate to the proposal as detailed within this report being the *Environmental Planning and Assessment Act 1979* and the *Protection of the Environment Operations Act 1997*.

### 1.2.1 Environmental Planning and Assessment Act 1979

The Roads and Traffic Authority (RTA), now Roads and Maritime Services (RMS), completed the EA for the Project in 2008 under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The EA addressed a number of key environmental issues in addition to describing the likely Project delivery and construction methods.

The Minister for Planning approved the Project under Part 75J of the EP&A Act on 29 January 2010, subject to a set of approval conditions. Six modifications of the Minister's Conditions of Approval (MCoA) have been granted since Project approval. These are:

- Modification 1 (approved 13 July 2010) – Modification to MCoA 2.12 to allow certain construction activities to be undertaken as part of the Ballina bypass project, located immediately south of the Project. The approved modification allowed works to be undertaken between the hours of 7:00am and 4:00pm on Saturdays between chainages 134810 and 136000 of the Ballina bypass project, including the operation of the Cumbalum and Ross Lane ancillary facilities for stage 1 of the Ballina bypass project.
- Modification 2 (approved 18 November 2010) – Modification to the Schedule 2 definition of construction to allow the translocation of Hairy Joint Grass as a pre-construction activity. Schedule 2 of the MCoA redefines construction activities as 'including all work other than survey; acquisitions; fencing; investigative drilling or excavation; building/road dilapidation surveys; minor clearing (except where heritage, threatened species, populations, or ecological communities would be affected).'
- Modification 3 (approved 6 November 2012) – Modification to the definition of ancillary facility and inclusion of Clause 2.27 to refine the process of the assessment and determination of ancillary facilities and various other administrative amendments.
- Modification 4 (approved 1 November 2012) – Modification to remove the requirement to protect heritage sites H29 and H39.
- Modification 5 (approved 19 March 2013) – Modification to increase controlled blasting limits with the consent of potentially affected receivers and extend controlled blasting hours associated with the construction of the St Helena tunnel.
- Modification 6 (approved 24 April 2013) - Modification to allow construction of the St Helena Tunnel Control Centre.

MCoA 2.12 and 2.13 currently regulate standard construction hours as part of the Project. These conditions are as follows:

2.12 Construction activities associated with the project shall only be undertaken during the following hours:

- (a) 7:00 am to 6:00 pm, Mondays to Fridays, inclusive;
- (b) 8:00 am to 1:00 pm on Saturdays; and
- (c) at no time on Sundays or public holidays.

Notwithstanding the above, construction activities are permitted between the hours of 7:00am and 4:00pm on Saturdays between chainages 134810 and 136000, and including the operation of the Cumbalum and Ross Lane ancillary facilities for Stage 1.

This condition does not apply to:

- (i) any works that do not cause construction noise to be audible at any sensitive receiver; or



- (ii) for delivery of materials required outside these hours by the police or other authorities for safety reasons; or
- (iii) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm.

2.13 Notwithstanding condition 2.12, certain construction activities may be allowed to occur outside the hours specified under that condition with the prior written approval of the Director General. Requests for out of hours approval will be considered for construction activities that cannot be undertaken during standard construction hours for technical or other justifiable reasons and will be considered on a case-by-case or activity-specific basis. Any request for out of hours works shall be accompanied by:

- (a) details of the nature and need for activities to be conducted outside standard construction hours;
- (b) written evidence to the EPA and the Director General that activities undertaken outside standard construction hours are justified, appropriate consultation with potentially affected receivers and notification of the relevant Council has been undertaken, issues raised have been addressed, and all feasible and reasonable mitigation measures have been put in place; and
- (c) evidence of consultation with the EPA on the proposed work outside standard construction hours.

For the purpose of this condition, the Director General may grant approval for out-of-hours construction works on a case-by-case or activity-specific basis through approval of a Construction Noise and Vibration Management Plan (refer to condition 6.5(d)).

MCoA 2.12 is discussed in detail within Section 2.4 of this report. MCoA 2.13 is not directly related to the subject proposal and is therefore not discussed further within this report.

RMS is seeking formal approval from a delegate of the Minister of the NSW DP&I to modify the Project Instrument of Approval under section 75W of the EP&A Act. This report has been prepared to support the request for Ministerial Approval for an extension of approved construction hours between 6:30am and 7:00am and 6:00pm and 7:00pm inclusive Monday - Friday and 7:00am and 8:00am and 1:00pm and 4:00pm on Saturdays (the proposal). Details of the proposed modification are outlined within Section 2.3 of this report.

Section 75W of the EP&A Act provides that a proponent may request the Minister to modify an approval for a project under Part 3A of the Act. A modification is defined under section 75W of the Act as:

*...means changing the terms of a Minister's approval, including:*

- (a) revoking or varying a condition of the approval or imposing an additional condition of the approval, and*
- (b) changing the terms of any determination made by the Minister under Division 3 in connection with the approval.*

In accordance with section 75W (4) of the EP&A Act the Minister may modify the approval (with or without conditions) or disapprove of the modification.

### 1.2.2 Protection of the Environment Operations Act 1997

The Project incorporates the scheduled activities of Crushing, Grinding and Separating, Extractive Industries and Road Construction under the definitions of the *Protection of the Environment Operations Act 1997* (POEO Act). Consequently, the Project was granted an Environment Protection Licence (EPL) following application pursuant to section 55 of the POEO Act on 19 September 2012.

The proposed modification would be limited to works entirely within the licenced premises as defined by the Project.

The provisions of the EPL that relate specifically to hours of operation (excluding blasting) are as follows:

#### *L4 Hours of operation*

##### *L4.1 Standard construction hours*

*Unless otherwise specified by any other condition of this licence, all construction activities are:*

- a) restricted to between the hours of 7:00am and 6:00pm Monday to Friday;*
- b) restricted to between the hours of 8:00am and 1:00pm Saturday; and*
- c) not to be undertaken on Sundays or Public Holidays.*

##### *L4.2 Exemptions to standard construction hours*

*The three categories of works that may be undertaken outside the standard hours of operation permitted by Condition L4.1 are:*

- a) the delivery of oversized plant or structures that police or other authorised authorities determine require special arrangements to transport along public roads;*
- b) emergency work to avoid the loss of lives or property, or to prevent environmental harm;*
- c) works that are not more than 5 dB(A) over the rating background level at the nearest noise sensitive receiver as assessed by acoustic investigation.*

*The licensee must notify the EPA via a quarterly forecast prior to the undertaking of any works referred to in Condition L4.2 a) and c) as well as providing the EPA with a copy of the results of any acoustic investigation made in relation to Condition L4.2 c) to be reported as per condition R1.9.*

##### *L4.3 Works agreed outside of standard construction hours*

*The licensee may undertake works outside of standard construction hours if agreement between the licensee and representatives of potentially affected noise sensitive receivers has been reached. Any agreement(s) between the licensee and the potentially affected noise sensitive receivers must be recorded in writing and a copy of the agreement(s) kept on the premises by the licensee for the duration of this licence.*

*L4.4 The licensee must notify, by letterbox drop and by detailing works on the project website, potentially affected noise sensitive receivers of the timing and duration of work agreed to under Condition L4.3 at least 48 hours prior to that work commencing. A copy of the notification must be kept by the licensee and made available to the EPA on request.*

*Note: where no project website currently exists, a website for this purpose must be created.*

##### *L4.6 Work generating high noise impact*

*Any work generating high noise impact, excluding blasting operations covered in Condition L4.5, must only be undertaken:*

- a) between the hours of 8:00am and 6:00pm Monday to Friday;*
- b) between the hours of 8:00am and 1:00pm Saturday; and*
- c) in continuous blocks of no more than 3 hours, with at least a 1 hour respite between each block of work generating high noise impact, where the location of the work is likely to impact the same receivers; except as expressly permitted by another condition of this licence.*

*For the purposes of this Condition 'continuous' includes any period during which there is less than a 1 hour respite between ceasing and recommencing any of the work the subject of this Condition.*

With regard to the provisions of the EPL that relate to hours of operation, the EPL may need to be amended in order to ensure that the modification as detailed within this report is consistent with the EPL. If required, the subject amendment would be sought following approval of the subject modification in accordance with the provisions of the *Environmental Planning and Assessment Act 1979*.



## 2 PROPOSED MODIFICATION

### 2.1 Benefits of the proposed modification

The Tintenbar to Ewingsdale - Pacific Highway Upgrade is an important component of the wider Pacific Highway Upgrade Program, which is needed to meet the NSW and Federal governments' commitments to upgrade the Pacific Highway between Hexham in NSW and the Queensland border.

The objectives of the program are to:

- Significantly reduce road crashes and injuries.
- Reduce travel times.
- Reduce freight transport costs.
- Develop a route that involves the community and considers its interests.
- Provide a route that supports economic development.
- Manage the upgrading of the route in accordance with ecologically sustainable development principles.
- Provide the best value for money.

As part of the above program, the Project is anticipated to result in the following beneficial outcomes:

- A safer section of highway.
- Greater transport efficiency and safety for intra-state and inter-state movements.
- Supporting growth and the long-term sustainability of the regional economy.
- Improved access and connectivity for the local community.
- Improved amenity along the existing Pacific Highway.
- Reducing financial costs associated with travel on the Pacific Highway.
- Reducing greenhouse gas emissions in the longer term and energy consumption relative to the base case of 'no upgrade'.

The above benefits would ensure that the operational integrity of the subject section of the Pacific Highway can be maintained. The fundamental benefit of the proposed modification is that the above outcomes could be experienced sooner than would otherwise be achieved. This benefit would be of great value to both the Government and wider community stakeholders as the benefits would onset the vast spectrum of socio economic and safety outcomes that will be delivered through the completion of the Project.

In relation to the first dot point above, it can be noted that a total of eight serious traffic incidents and four fatalities generally attributable to the current condition and configuration of the existing Tintenbar to Ewingsdale section of the Pacific Highway have occurred within a 12 month period from the commencement of substantial Project construction. It could be reasonably projected that several such future events could be avoided with the earlier completion of the Project.

The proposal would result in the following benefits in relation to the faster delivery of the Project:

- Ensure full advantage is taken of available potential construction hours,
- Provide Greater Value for State and Federal government funding; and
- Ensure Project timing milestones are achieved.

These benefits will be discussed in detail under the following sub-headings:

### Ensure full advantage is taken of available potential construction hours

Available daylight plays a significant role in the ability to efficiently construct the approved Project. As such, the more daylight hours available, the more efficiently the Project is able to be delivered.

The proposed extension of hours would ensure that construction efficiency can be maximised through taking full advantage of daylight hours wherever practicable. This opportunity is the greatest between the months of October and March when there can be up to an additional two hours of daylight experienced between 6:00pm and sunset. It can also be noted that up to an additional hour of daylight can be experienced in the morning prior to the current permissible start time of 7:00am from sunrise during October.

The projected sunrise and sunset times for Bangalow are provided within Figure 2 below. It can be noted within this graph that the blue line illustrates the number of hours of sunlight experienced in a day across the course of the year.



Figure 2 - Sunrise and sunset times for Bangalow (2013) - Source <http://ptaff.ca>

While the proposed extension of hours would not run for the entire period of daily sunlight at all times of the year, making reasonable use of available daylight at any time of the year, and particularly during the summer months when the daylight hours are considerably longer, would result in experiencing more optimal efficiency with regard to construction activities.

### Provide Greater Value for State and Federal Government Funding

Greater value for State and Federal government funding would be achieved through increased efficiency in construction of the Project through the proposed modification through minimisation of costs associated with Project delays. As such, the subject modification would more closely fulfill the Government's objective with regard to providing the best value for money from the Pacific Highway Upgrade Program.



### Ensure Project Timing Milestones are Achieved

Inclement weather and its effects has contributed significantly to slow project progression since the commencement of substantial construction of the Project resulting in a total of 117.5 lost days being recorded on the Project to mid-August 2013.

At the end of July 2013, 112.5 working days had been lost due to wet weather out of a possible 199 working days, approximately 55 more days than could have been expected. This equates to approximately 57 per cent lost time. Lost working days were as follows:

- February 16.5
- March 14.5
- April 11
- May 18
- June 12.5
- July 21

Expected wet weather between now and the end of the Project could be anywhere from 92 to 120 days. Therefore there is a real need for as much productive work as possible to be undertaken on available/sunny days.

This slow progression has the potential to jeopardise the achievement of Project milestones. A map showing significant rainfall within the Project locality, which has caused slow progression of the Project in the context of eastern NSW for a nine month period between 1 October 2012 and 30 June 2013 is shown within Figure 3 below.

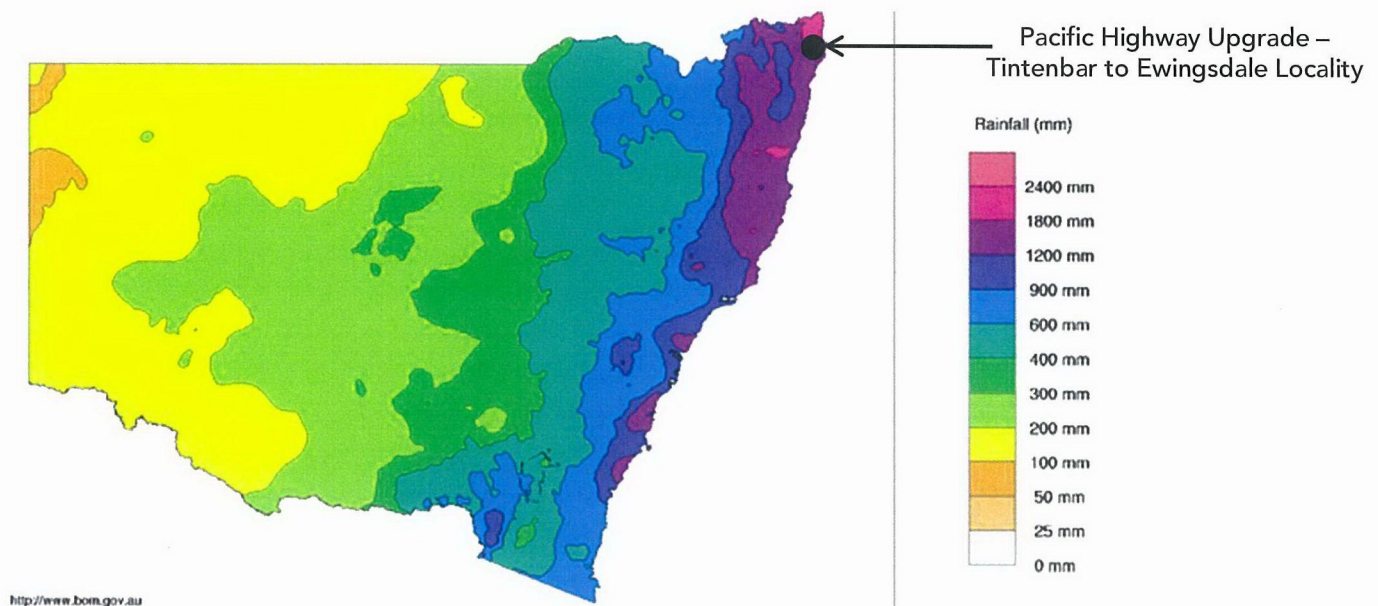


Figure 3 - Rainfall for eastern NSW between 1 October 2012 and 30 June 2013

It can also be noted that the annual average mean rainfall for Cape Byron is 1735.7 millimetres. This equates to a total average of 121 rain days per year with a substantial proportion of this rainfall being experienced between the months of December and June as shown within Figure 4 below.

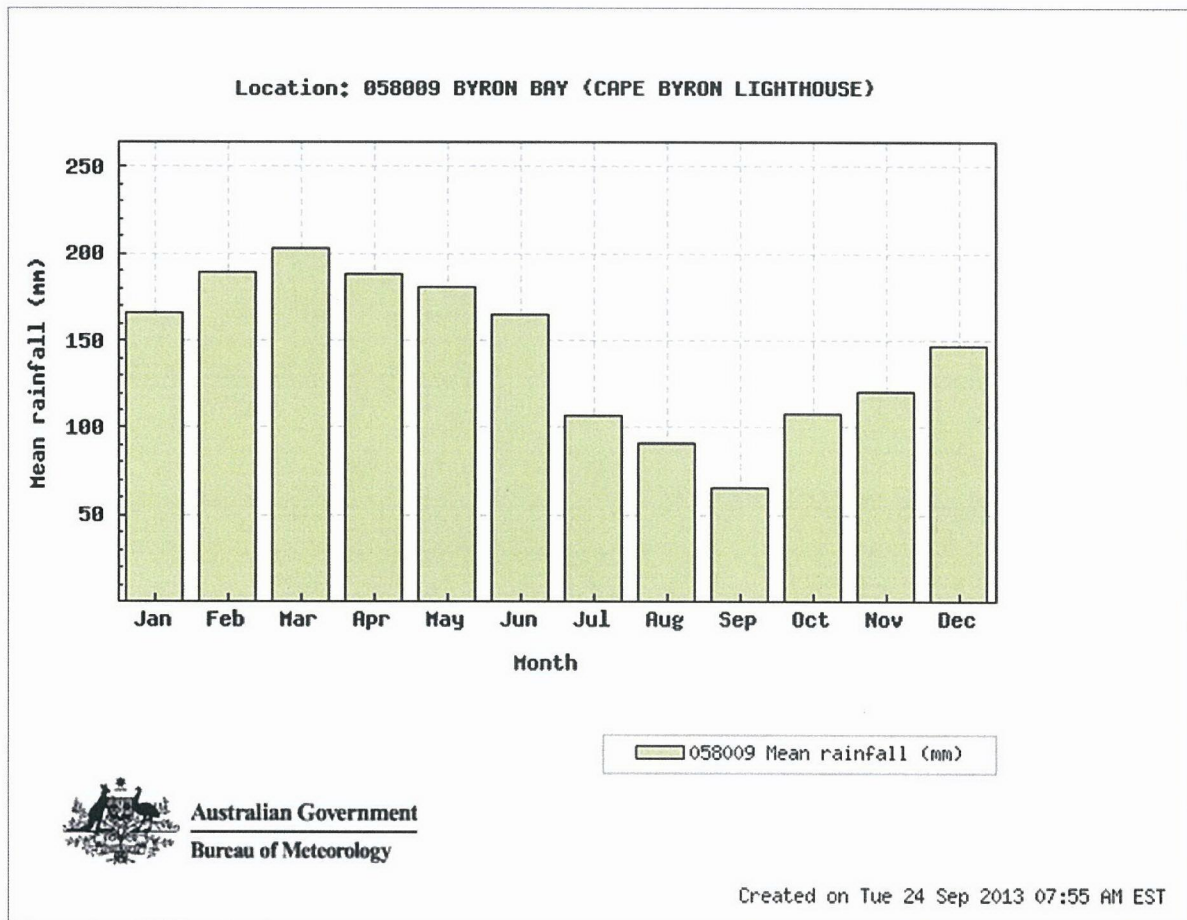


Figure 4 – Average annual mean rainfall for Cape Byron

Given the substantial and abnormal amount of rainfall experienced, particularly between the months of December and June, it is critical for the Project to take full advantage of the fine weather during the 'dry season' between the months of July and November.

The proposed extension of hours would help to ensure that full advantage can be taken of favourable weather conditions when they occur and to make up for lost time. This would result in the mitigation of the impacts of inclement weather and would allow the benefits of completion associated with the approved Project to be realised sooner.

## 2.2 Extended hours determinations for Pacific Highway Upgrade projects

The determination of, and successful execution of extended working hours has been experienced by various Pacific Highway Upgrade Projects. These Projects include:

- Pacific Highway Upgrade – Tintenbar to Ewingsdale Stage 1 - Extension of hours for construction activities from 8am - 1pm on Saturdays to 7:00am and 4:00pm on Saturdays between chainages 134810 and 136000, and including the operation of the Cumbalum and Ross Lane ancillary facilities for Stage 1.
- Pacific Highway Upgrade – Banora Point - Extension of hours between 6.30am to 7.00am and 6.00pm to 6.30pm Monday to Friday (inclusive) and 1.00pm to 3.00pm on Saturdays for various construction activities as stated within the document titled Banora Point Upgrade Alliance – Modification Request - Extension to Standard Construction Hours, Rev 3 dated 25 January 2012.
- Pacific Highway Upgrade – Moorland to Herons Creek – Extension of standard working hours from 7:00am to 6:00pm Mondays – Fridays to 6:00am to 6:00pm Mondays – Fridays and from 8am to 1pm on Saturdays to 7:00am to 4:00pm on Saturdays.



- Pacific Highway Upgrade – Ballina Bypass - Extension of standard working hours on Saturdays from 8am - 1pm to 7.00am - 4.00pm for construction activities between chainage 130100 – 134800, including the operation of the Cumbalum and Ross Lane ancillary facilities.

The implementation of the above modifications has demonstrated that proposals similar to those detailed within this report can be successfully executed to the benefit of Project stakeholders and the wider community.

In addition to the above, an environmental assessment has recently been undertaken for the Woolgoolga to Ballina Pacific Highway Upgrade which has proposed the following construction hours:

- Monday to Friday: 6am to 7pm
- Saturday: 8am to 5pm
- Sunday and Public Holidays: no work.

RMS is proposing the above 'extended working hours' in response to a NSW Government Submission to Infrastructure Australia. The rationale for proposing extended working hours is to improve construction efficiencies and to complete construction of the project earlier than would otherwise be the case with normal working hours to achieve considerable benefits to the community and road users. To date this environmental assessment has been submitted to the Department of Planning and Infrastructure and has been placed on community display in pursuance of approval under Section 5.1 of the *Environmental Planning and Assessment Act 1979*.

### 2.3 Current Approved Working Hours

The current approved working hours are specified within MCoA 2.12. MCoA 2.12 states:

Construction activities associated with the project shall only be undertaken during the following hours:

- (a) 7:00am to 6:00pm, Mondays to Fridays, inclusive;
- (b) 8:00am to 1:00pm on Saturdays; and
- (c) At no time on Sundays or public holidays.

Notwithstanding the above, construction activities are permitted between the hours of 7:00am and 4:00pm on Saturdays between chainages 134810 and 136000, and including the operation of the Cumbalum and Ross Lane ancillary facilities for Stage 1.

This condition does not apply to:

- (i) Any works that do not cause construction noise to be audible at any sensitive receiver; or
- (ii) For delivery of materials required outside these hours by the police or other authorities for safety reasons; or
- (iii) Where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm.

### 2.4 Description and Location of the Proposal

This report seeks to modify the current approved construction hours for the Project as detailed within MCoA 2.12, as follows (proposed modification is shown in italics):

Construction activities associated with the project shall only be undertaken during the following hours:

- (a) ~~7:00am to 6:00pm~~ *6:30am to 7:00pm*, Mondays to Fridays, inclusive;
- (b) ~~8:00am to 1:00pm~~ *7:00am to 4:00pm* on Saturdays; and
- (c) at no time on Sundays or public holidays.

~~Notwithstanding the above, construction activities are permitted between the hours of 7:00am and 4:00pm on Saturdays between chainages 134810 and 136000, and including the operation of the~~

~~*Cumbalum and Ross Lane ancillary facilities for Stage 1.*~~

This condition does not apply to:

- (i) Any works that do not cause construction noise to be audible at any sensitive receiver; or
- (ii) For delivery of materials required outside these hours by the police or other authorities for safety reasons; or
- (iii) Where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm.

The proposal applies to specific elements of the approved Project as defined within the Instrument of Approval issued in accordance with Part 3A of the *Environmental Planning and Assessment Act 1979*. As such, only certain activities would be undertaken during the proposed extended hours. Various activities, including some high noise and vibration generating activities such as pile trimming, rock crushing and sheet piling would be restricted within 300 metres of receivers which have lodged an objection to the proposal. These restrictions would ensure that impacts to these receivers during the proposed extended hours are minimised.

Receivers that have lodged an objection to the proposal are illustrated within Figures 5 to 8 below.



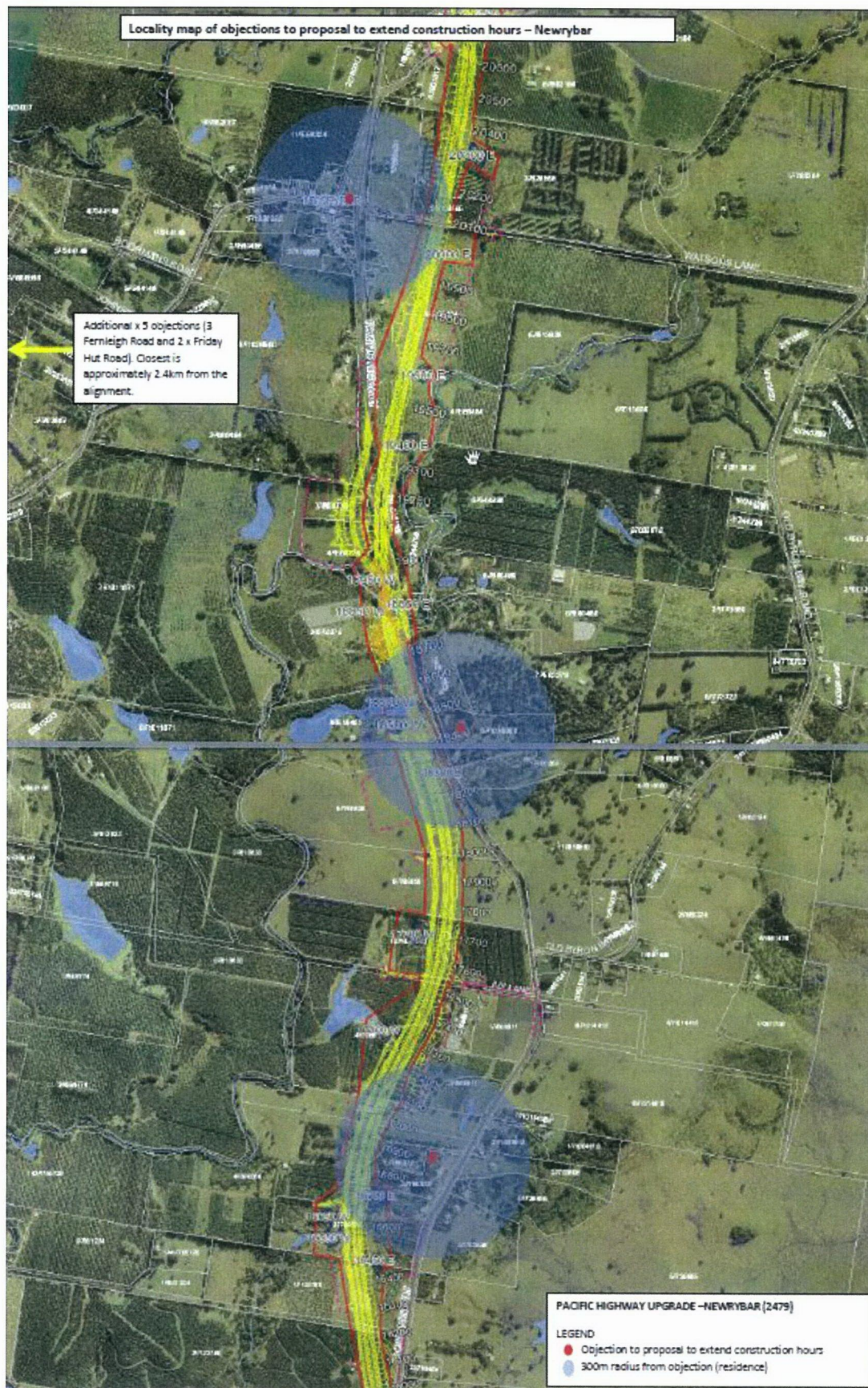


Figure 5 – Locality map of objections to proposal to extend construction hours - Newrybar



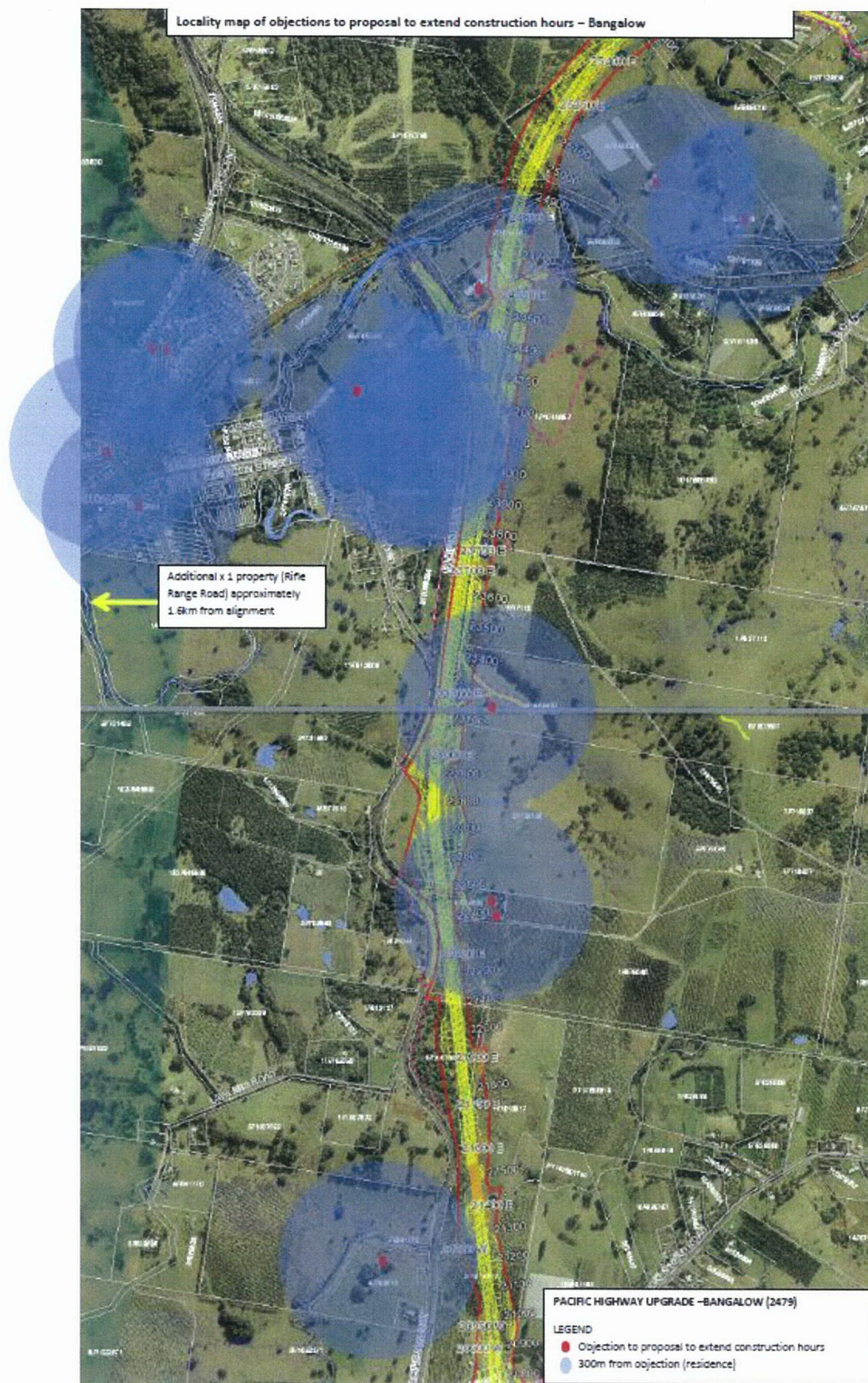


Figure 6 – Locality map of objections to proposal to extend construction hours - Bangalow



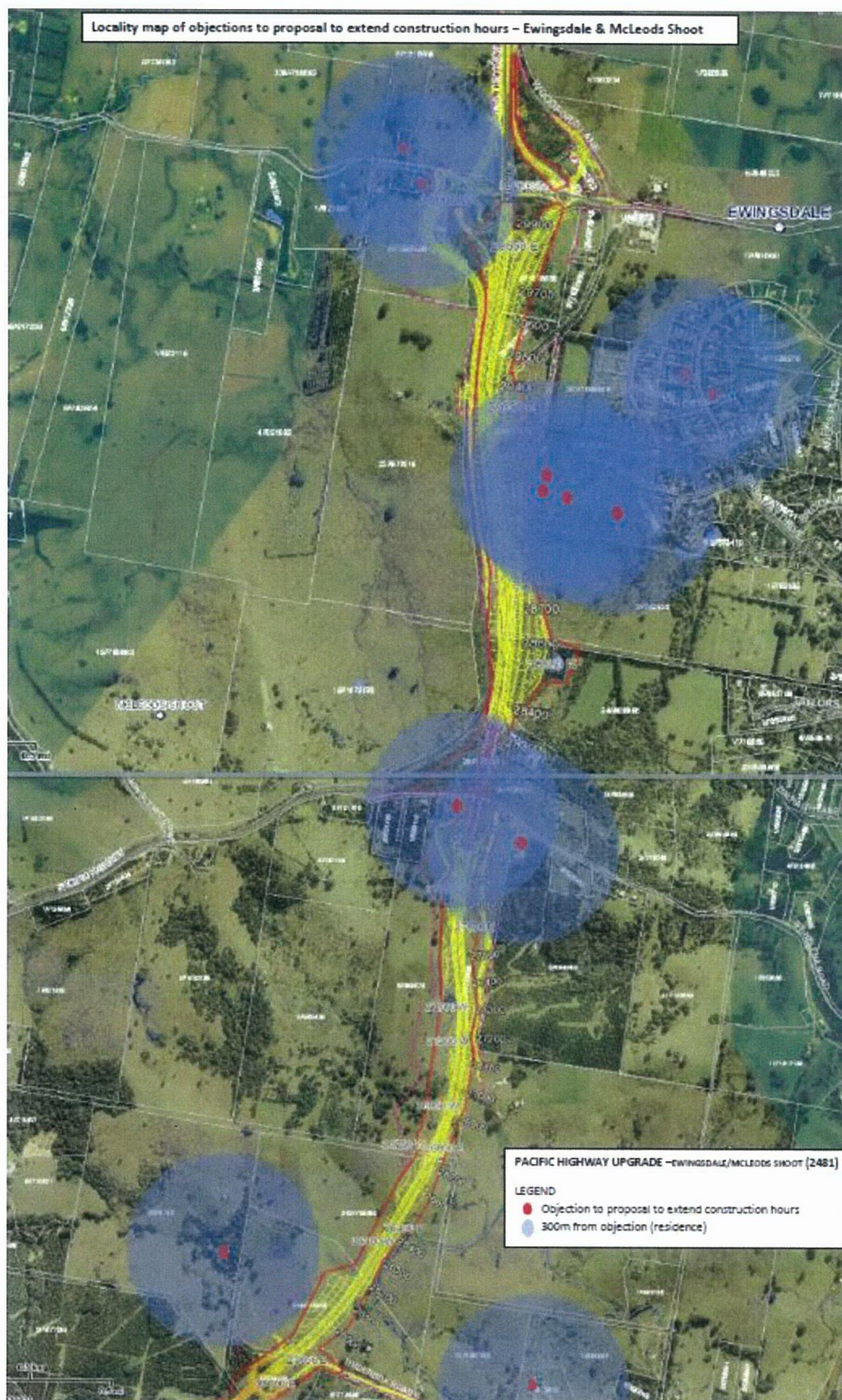


Figure 7 – Locality map of objections to proposal to extend construction hours – Ewingsdale and McLeods Shoot



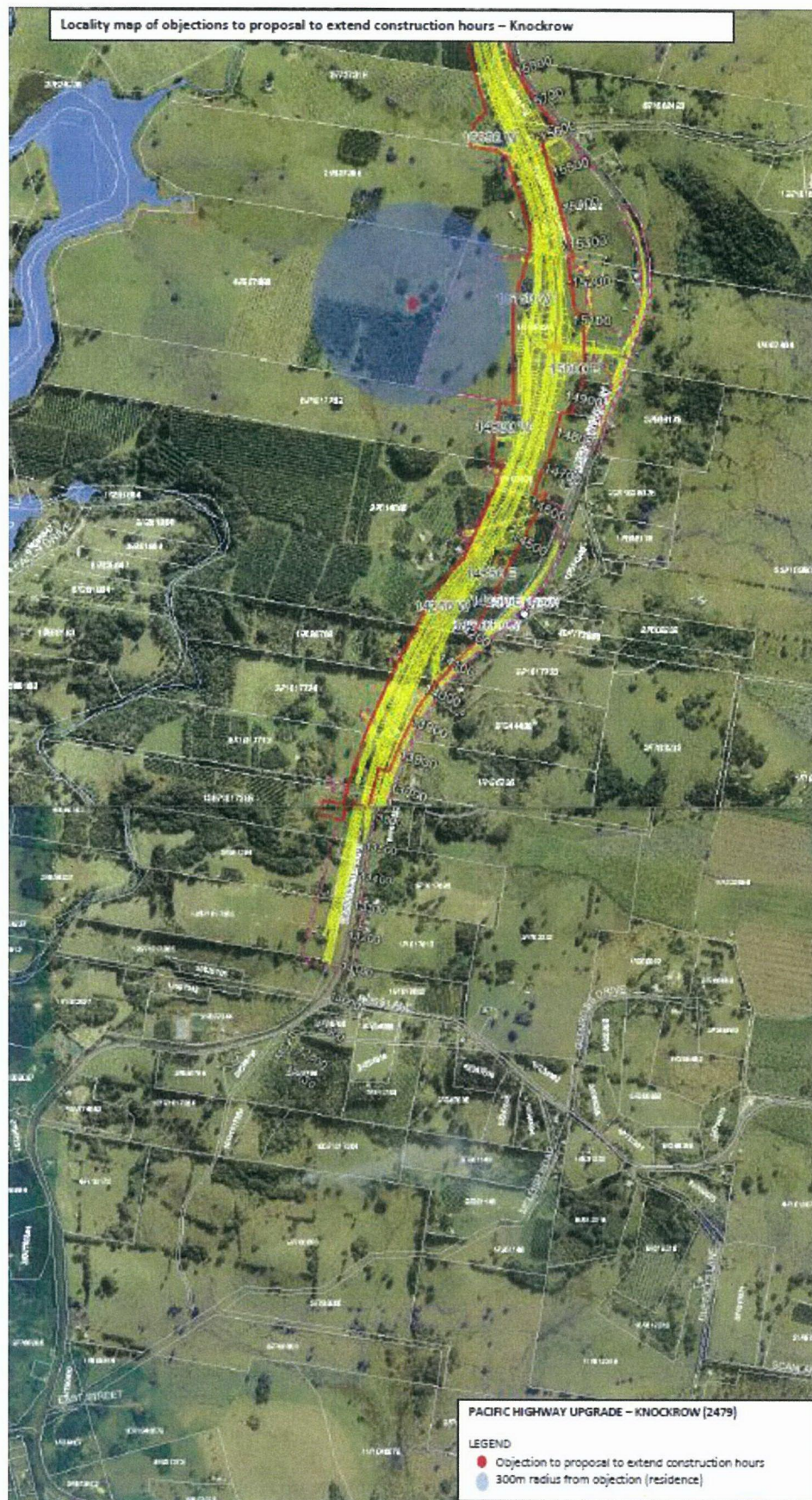


Figure 8 – Locality map of objections to proposal to extend construction hours - Knockrow



A list of Project activities are provided within Table 1. Activities that would be undertaken within 300 metres of receivers during specific hours that have lodged an objection are ticked, whereas activities that would not be undertaken are crossed. This modification request does not extend to tunnelling which will continue to be undertaken in accordance with the existing NVMSP. Noise levels for the plant listed within Table 1 are detailed within Table 25 of Appendix A of the NVMSP.

Table 1: Types of Construction Activities Proposed to be Undertaken within 300 metres of Receiver which has Lodged an Objection

| Activity Type                 | Plant   | Activity to be Undertaken 6:30am to 7am and 6pm to 7pm weekdays | Activity to be Undertaken 1pm to 4pm on Saturdays |
|-------------------------------|---|---|---|
| Fencing                       | <ul style="list-style-type: none"> <li>Tractor/Backhoe/Skid steer</li> <li>Post Driver Attachment</li> <li>Compressor with rock drill</li> </ul>  | ✓   | ✓   |
| Sediment Basin Construction   | <ul style="list-style-type: none"> <li>D7 Dozer to D10 Dozer</li> <li>30t to 45t Excavator</li> <li>25t Articulated Dump Truck</li> </ul>   | ✓   | ✓   |
| Clearing and Grubbing         | <ul style="list-style-type: none"> <li>Feller Lopper/Broad Acre Mulcher</li> <li>Tub Grinder</li> <li>Chainsaw</li> <li>D9 Dozer</li> </ul>   | ×   | ×   |
| Topsoil Strip/Stockpile       | <ul style="list-style-type: none"> <li>D9 to D11 Dozer</li> <li>12 to 14 Series Grader</li> <li>30t to 87t Excavator</li> <li>30t to 50t Articulated Dump Truck (ADT)</li> </ul>                                      | ×   | ×   |
| Foundations Rip and Recompact | <ul style="list-style-type: none"> <li>140 and 14/16 Series Grader</li> <li>D9 to D11 Dozer</li> <li>CAT825 Compactor</li> <li>12t Smoothdrum Roller</li> <li>18t Padfoot Roller</li> <li>Watercart 10000L</li> </ul> | ×   | ×   |
| Foundations Bridging          | <ul style="list-style-type: none"> <li>Truck and Dog</li> </ul>   | ✓   | ✓   |



| Activity Type   | Plant   | Activity to be Undertaken 6:30am to 7am and 6pm to 7pm weekdays | Activity to be Undertaken 1pm to 4pm on Saturdays |
|---|---|---|---|
|   | <ul style="list-style-type: none"> <li>○ 30t to 50 ADT</li> <li>○ D9 Dozer</li> <li>○ Smoothdrum Roller</li> </ul>  |   |   |
| Earthworks Prelim/Prep<br>Creeklines and Hillside Terracing | <ul style="list-style-type: none"> <li>○ 35t Excavator</li> <li>○ 30t to 40t ADT</li> <li>○ D9 to D11 Dozer</li> <li>○ CAT 815 Compactor</li> <li>○ 12t Smoothdrum Roller</li> <li>○ 18t Padfoot Roller</li> </ul>              | ×   | ✓   |
| Cross Drainage  | <ul style="list-style-type: none"> <li>○ 30t to 40t Excavator</li> <li>○ Trench Roller</li> <li>○ Backhoe/Skid steer</li> </ul>   | ×   | ✓   |
| Earthworks Cut  | <ul style="list-style-type: none"> <li>○ 12 to 14 Series Grader D9 to D11 Dozer</li> <li>○ 30t to 90t Excavator</li> <li>○ 30t to 50t ADT</li> <li>○ Truck and Dog</li> </ul>   | ✓   | ✓   |
| Earthworks Fill   | <ul style="list-style-type: none"> <li>○ CAT637G Scraper</li> <li>○ 50t ADT</li> <li>○ Truck and Dog</li> <li>○ CAT825 Compactor</li> <li>○ 18t Padfoot Roller</li> <li>○ 12t Smoothdrum Roller</li> <li>○ Watercart</li> </ul> | ✓   | ✓   |

| Activity Type          | Plant  | Activity to be Undertaken 6:30am to 7am and 6pm to 7pm weekdays | Activity to be Undertaken 1pm to 4pm on Saturdays |
|------------------------|--|---|---|
|                        | <ul style="list-style-type: none"> <li>140 and 14/16 Series Grader</li> </ul>  |   |   |
| Crushing and Screening | <ul style="list-style-type: none"> <li>Jaw/Cone Crusher</li> <li>Impact Crusher</li> <li>Vibratory Screen</li> <li>920 Loader</li> <li>35t to 45t Excavator</li> <li>30t to 50t ADT</li> </ul> | X   | X   |
| Cut Foundation         | <ul style="list-style-type: none"> <li>Truck and Dog</li> <li>30t to 50t ADT</li> <li>D9 to D11 Dozer</li> <li>Smoothdrum Roller</li> </ul>  | ✓   | ✓   |
| Pavement Drainage      | <ul style="list-style-type: none"> <li>30t to 45t Excavator</li> <li>Trench compactor</li> <li>Backhoe/Skid steer</li> <li>Vermeer Wheel/Track Trencher</li> </ul>                             | ✓   | ✓   |
| Select Placement       | <ul style="list-style-type: none"> <li>Truck and Dog</li> <li>140 Grader</li> <li>Watercart</li> <li>Roller</li> </ul>   | ✓   | ✓   |
| Pavement works         | <ul style="list-style-type: none"> <li>Asphalt Paver</li> <li>Concrete agitator</li> <li>Batch plant operation</li> </ul>  | ✓   | ✓   |



| Activity Type  | Plant  | Activity to be Undertaken 6:30am to 7am and 6pm to 7pm weekdays | Activity to be Undertaken 1pm to 4pm on Saturdays |
|--|--|---|---|
|  | <ul style="list-style-type: none"> <li>Steel tying</li> <li>Placement of reinforcing bars</li> </ul>   |   |   |
| Working platform construction (including sheet piling) | <ul style="list-style-type: none"> <li>Dozer</li> <li>Roller (smooth and padfoot)</li> <li>Excavator</li> <li>Truck &amp; dog/40t ADT</li> <li>Grader</li> </ul>                               | X   | X   |
| Bored piling   | <ul style="list-style-type: none"> <li>Bored piling rig</li> </ul>   | X   | ✓   |
| Pile trimming  | <ul style="list-style-type: none"> <li>Jackhammers and compressors</li> </ul>  | X   | ✓   |
| Pile caps construction                                 | <ul style="list-style-type: none"> <li>Concrete agitator</li> <li>Concrete pump</li> <li>Excavator</li> <li>Needle vibrators</li> <li>Diesel generator</li> </ul>                              | ✓   | ✓   |
| Pier construction                                      | <ul style="list-style-type: none"> <li>Crane</li> <li>Hand tools (scaffolding)</li> <li>Diesel generator</li> <li>Concrete agitator</li> <li>Concrete pump</li> <li>Needle vibrator</li> </ul> | ✓   | ✓   |
| Abutments construction                                 | <ul style="list-style-type: none"> <li>Hand tools</li> <li>Crane</li> </ul>  | ✓   | ✓   |

| Activity Type         | Plant   | Activity to be Undertaken 6:30am to 7am and 6pm to 7pm weekdays | Activity to be Undertaken 1pm to 4pm on Saturdays |
|-----------------------|---|---|---|
|                       | <ul style="list-style-type: none"> <li>Concrete agitator</li> <li>Concrete pump</li> <li>Needle vibrators</li> </ul>  |   |   |
| Steel girder erection | <ul style="list-style-type: none"> <li>700t Crane</li> <li>Prime Mover/ Jinker Transport</li> <li>Hand tools</li> <li>Diesel generator</li> </ul>   | ✓   | ✓   |
| Site welding          | <ul style="list-style-type: none"> <li>Welder</li> <li>Diesel generator</li> </ul>  | ✓   | ✓   |
| Girders installation  | <ul style="list-style-type: none"> <li>Trucks</li> <li>Cranes</li> <li>Diesel generator</li> </ul>  | ✓   | ✓   |
| Deck Construction     | <ul style="list-style-type: none"> <li>Crane</li> <li>Diesel Generator</li> <li>Concrete Pump</li> <li>Concrete Agitator</li> <li>Semi trailers</li> <li>Hand tools</li> <li>Concrete vibrator</li> </ul> | ✓   | ✓   |



| Activity Type        | Plant  | Activity to be Undertaken 6:30am to 7am and 6pm to 7pm weekdays | Activity to be Undertaken 1pm to 4pm on Saturdays |
|----------------------|--|---|---|
| Barrier construction | <ul style="list-style-type: none"> <li>○ Crane</li> <li>○ Diesel generator</li> <li>○ Concrete agitator</li> <li>○ Concrete pump</li> <li>○ Needle vibrator</li> </ul> | ✓   | ✓   |

## 2.5 Consistency with the Interim Construction Noise Guideline

The Interim Construction Noise Guideline (ICNG) has been developed to assist in the management of noise from construction works regulated by the Environment Protection Authority (EPA) and is used to assist the EPA in setting statutory conditions in licences and other regulatory instruments.

The main objectives of the ICNG are to:

- Promote a clear understanding of ways to identify and minimise noise from construction works,
- Focus on applying all 'feasible' and 'reasonable' work practices to minimise construction noise impacts,
- Encourage construction to be undertaken only during the recommended standard hours, unless approval is given for works that cannot be undertaken during these hours,
- Streamline the assessment and approval stages and reduce time spent dealing with complaints at the project implementation stage; and
- Provide flexibility in selecting site-specific feasible and reasonable work practices in order to minimise noise impacts.

It can be noted that Appendix 5 to the Project Construction Environmental Management Plan (CEMP), the Project NVMSP has been developed in accordance with the ICNG.

Section 2.1 of the ICNG identifies sensitive land uses that have the potential to be affected by noise from construction. These land uses include:

- Residences,
- Classrooms,
- Hospitals,
- Places of worship,
- Passive recreation areas such as outdoor grounds used for teaching; and
- Active recreation areas such as parks and sports grounds.

Other land uses that may at times be sensitive to noise from construction include:

- Commercial premises, such as film and television studios, research facilities, entertainment spaces, temporary accommodation (such as caravan parks and camping grounds), child care centres, restaurants, office premises and retail spaces; and
- Industrial premises.

The above land uses have been identified as sensitive receivers within the Project NVMSP. Identification of the subject receivers and the implementation of the provisions of the NVMSP ensure that the receivers are managed in accordance with the ICNG. All sensitive receivers in relation to the Project have been informed and provided with the opportunity to provide comment in the development and assessment of this proposal. The details of this consultation are provided within Section 3 of this report.

Section 2.2 of the ICNG recommends standard hours for construction works. These hours (excluding blasting) are:

Monday to Friday 7am to 6pm,  
Saturday 8am to 1pm;  
No work on Sundays or public holidays.



Notwithstanding the above, Section 2.2 also states that these hours are not mandatory. Section 2.3 of the ICNG lists five categories of works that might be undertaken outside the recommended standard hours as follows:

- *The delivery of oversized plant or structures that police or other authorities determine require special arrangements to transport along public roads.*
- *Emergency work to avoid the loss of life or damage to property, or to prevent environmental harm.*
- *Maintenance and repair of public infrastructure where disruption to essential services and/or considerations of worker safety do not allow work within standard hours.*
- *Public infrastructure works that shorten the length of the project and are supported by the affected community.*
- *Works where a proponent demonstrates and justifies a need to operate outside the recommended standard hours.*

*In the last two categories, the proponent should provide the relevant authority with clear justification for reasons other than convenience, such as to sustain operational integrity of road, rail and utility networks. The relevant authority may be the same as the government organisation undertaking the works.*

The subject works have been identified to be consistent with the last two categories within the above list. Consistency with these categories is analysed within Table 2 below.

Table 2 - Consistency of proposal with Section 2.3 of the ICNG

| Category  | Consistency   |
|---|---|
| Public infrastructure works that shorten the length of the project and are supported by the affected community. | <p>The proposed modification would shorten the length of the Project by approximately 4.2 months as detailed within Section 2.6 of this assessment. The Project has also been deemed to be a critical infrastructure project under the provisions of the <i>Environmental Planning and Assessment Act 1979</i>.</p> <p>Comprehensive community consultation undertaken in relation to the proposed modification has shown overall support for the proposal. Details of community involvement activities and community responses in relation to the proposal are provided within Section 3 of this report.</p>   |
| Works where a proponent demonstrates and justifies a need to operate outside the recommended standard hours.    | <p>The Pacific Highway Upgrade - Tintenbar to Ewingsdale is an important component of the wider Pacific Highway Upgrade Program, which is needed to meet the NSW and Commonwealth government's commitments to upgrade the Pacific Highway between Hexham in NSW and the Queensland border.</p> <p>As part of the above program, the Tintenbar to Ewingsdale - Pacific Highway Upgrade is anticipated to result in the following beneficial outcomes:</p> <ul style="list-style-type: none"> <li>• A safer section of highway.</li> <li>• Greater transport efficiency and safety for intra-state and inter-state movements.</li> <li>• Supporting growth and the long-term sustainability of the regional economy.</li> </ul> |

|  |   |
|--|---|
|  | <ul style="list-style-type: none"> <li>• Improved access and connectivity for the local community.</li> <li>• Improved amenity along the existing Pacific Highway.</li> <li>• Reducing financial costs associated with travel on the Pacific Highway.</li> <li>• Reducing greenhouse gas emissions in the longer term and energy consumption relative to the base case of 'no upgrade'.</li> </ul> <p>The above benefits would ensure that the operational integrity of the subject section of the Pacific Highway can be maintained. The fundamental justification for the proposed modification is that the above outcomes could be experienced sooner than would otherwise be achieved. This benefit would be of great value to both the Government and wider community stakeholders as the benefits would onset the vast spectrum of socio-economic and safety outcomes that will be delivered through the completion of the Project.</p> |
|--|---|

The identification and assessment of the suitability of proposed extension to working hours in accordance with the ICNG as part of the Pacific Highway Upgrade – Tintenbar to Ewingsdale is comprehensively examined within this report. This includes examination of the quantitative assessment of the potential noise impacts of the Project and the proposed extension to working hours within Section 4 of this report.

## 2.6 Options considered for proposed extended working hours

During the development of this modification request, several scenarios for extended Project working hours were developed in order to determine the optimal balance between benefits and impacts likely to be experienced by the local and wider community and the Project if the modification were approved. The options that were assessed are detailed under the following sub-headings.

### Scenario 1 - 6:30am to 7:00pm (Monday to Friday)

The ability for the Project to commence construction 30 minutes earlier and finish 60 minutes later during each weekday would allow for productive construction (for example bulk earthworks, drainage, paving and structures works) to be undertaken for an extended period of time each day and therefore decrease the overall duration of these activities.

While productive construction activities as detailed within Section 2.4 would be undertaken throughout the extended hours, a substantial proportion of activities during these times would include vehicle and plant 'warm up', site cleanup, concrete pouring, vehicle and machinery refueling and maintenance and 'sealing' of working areas as well as other low noise generating activities such as steel fixing and installation of temporary overnight/weekend erosion and sediment controls. These activities would substantially occur during these periods as the proposed extended hours would occur towards the beginning and the end of the productive working day.

It has been recognised that the proposed hours would be outside of day-time hours as defined by the ICNG. As such, a lower background noise level would apply to activities outside of the hours of 7:00am to 6:00pm. However, as activities during this time would substantially include 'startup' and 'finishing' activities as detailed above, it is envisaged that this would act to provide some mitigation to allow achievement of required Project noise goals.

If this scenario was to be implemented it would result in completion of the Project approximately 2.6 months sooner than the current forecast completion date.



#### Scenario 2 – 7:00am to 6:00pm (Saturdays)

While the ICNG specifies recommended standard hours as 8am until 1pm on Saturdays, the ICNG also defines day-time hours as 7am to 6pm. As such, in order to maximise the benefits of extended hours to Project efficiency and still ensure works could be undertaken under day-time noise level conditions, the hours of 7am to 6pm on Saturdays would be highly suitable.

However, the impact of the above working hours on the community would be high through impacts on nearby residents such as noise and vibration as it would not allow for respite through decreased work hours on Saturdays. It can also be noted that it would be likely that potentially affected residents who would normally be at work during the week would be at home during this time, further exacerbating the incremental impacts of Project working hours on these receivers.

The impact of these working hours on Project personnel would also be higher as the hours would decrease the rest and recreation time for workers. Of particular note, a lack of rest could result in Project personnel experiencing symptoms of fatigue. The risk of fatigue could be minimised by ensuring a reasonable period for rest is provided to workers through minimising working hours on Saturdays.

If this scenario was to be implemented it would result in completion of the Project approximately 1.8 months sooner than the current forecast completion date. However, given the potential adverse impacts as detailed above, Scenario 2 is not an option for the Project in relation to extended standard working hours.

#### Scenario 3 - 7:00am to 4:00pm (Saturdays)

Works between 7:00am and 4:00pm on Saturdays would be undertaken during day-time hours as defined by the ICNG. This would ensure that a day-time noise level would be experienced. The only criteria where alternative extended working hours would be more beneficial are 7am to 6pm (Saturdays) where a higher level of benefit to the progression of the Project could be experienced. If this scenario was to be implemented, it would result in completion of the Project approximately 1.6 months sooner than the current forecast completion date. However, this benefit is outweighed by the impacts that the hours would have on the community and Project personnel.

The scenario of 8am to 4pm was considered. However, the commencement of works at 7am was considered suitable given the benefit to the progression of the Project of an additional hour on Saturday mornings and given that only five respondents objected to early starts on Saturdays (prior to 8am). Furthermore, it was noted that twenty-one respondents expressed a clear statement of support for the proposed working hours. The main reason cited for supporting the proposal was because construction of the Project would be completed as soon as possible.

#### Scenario 4 - Combination of working hour scenarios

A combination of Scenarios 1 and 2 or 1 and 3 was considered as it would maximise potential Project efficiency. However, it was acknowledged that the cumulative impact of a combination of work hour scenarios has the potential to be unacceptably high. This is particularly the case with a combination of Scenarios 1 and 2.

#### Scenario 5 – Combination of working hour scenarios one and three with mitigation measures

Following the undertaking of the assessment of the impacts of proposed extension of hours it has been recognised that the implementation of mitigation measures included within Section 4 of this report could be implemented to effectively reduce the impacts of a combination of working hour scenarios. Despite this, it was still considered that a combination of Scenarios 1 and 2 had the potential for impacts to be too high. However, a combination of Scenarios 1 and 3 with the implementation of the mitigation measures included within this report was considered an optimal balance to achieve high Project efficiency while maintaining a minimal level of environmental and social impact. It has also been identified that if this scenario was to be implemented it would result in completion of the Project approximately 4.2 months sooner than the current forecast completion date.

As such, given the assessment of extended working hours options as detailed above in combination with

the implementation of mitigation measures as detailed within Section 4 of this report, it has been determined that the hours of 6:30am to 7:00pm (Monday to Friday) and 7am to 4pm (Saturdays) would be the most holistically beneficial to the community, the progression of the Project and Project personnel.

## 2.7 Proposed modification to working hours (the proposal)

This report seeks to modify the current approved construction hours for the Project as detailed within Condition 2.12. The proposed modification is as follows (proposed modification is shown in italics):

Construction activities associated with the project shall only be undertaken during the following hours:

- (a) ~~7:00am to 6:00pm~~ 6:30am to 7:00pm, Mondays to Fridays, inclusive;
- (b) ~~8:00am to 1:00pm~~ 7:00am to 4:00pm on Saturdays; and
- (c) at no time on Sundays or public holidays.

~~Notwithstanding the above, construction activities are permitted between the hours of 7:00am and 4:00pm on Saturdays between chainages 134810 and 136000, and including the operation of the Cumbalum and Ross Lane ancillary facilities for Stage 1.~~

This condition does not apply to:

- (i) Any works that do not cause construction noise to be audible at any sensitive receiver; or
- (ii) For delivery of materials required outside these hours by the police or other authorities for safety reasons; or
- (iii) Where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm.

It can be noted that the Section of Condition 2.12 that relates to the operation of the Cumbalum and Ross Lane ancillary facilities for Stage 1 has been proposed to be removed due to the completion of construction and the commencement of operation with regard to this section of the approved Project.



### 3 STAKEHOLDER INVOLVEMENT

All community consultation with regard to the Project is managed in accordance with the Community Communications Strategy (CCS), which was approved by DP&I on 20 September 2012.

Consultation with and notification of stakeholders regarding any changes or issues for the Project would continue to be managed in accordance with the NVMSP and the Project CCS (as prepared to meet the requirements of MCoA 5.4). The implementation of procedures/mitigation measures listed within these documents should address any concerns or issues from the community arising from the proposed extension to working hours. A free call Project information and complaints phone number (24 hours a day, 7 days a week) as required by MCoA 5.3 is operational throughout the delivery of the Project. Furthermore, regular community information sessions, meetings with residents and stakeholders would be undertaken proactively and as required to address any stakeholder issues that may arise during the delivery of and in relation to the proposal.

In addition to the implementation of the NVMSP and CCS, the CSMREWH has been prepared in relation to the proposed modification. The primary purpose of the CSMREWH is to outline the communications activities that have underpinned consultation with residents in relation to the proposal.

The CSMREWH has been designed to facilitate informing potentially affected and adjacent residents, stakeholders and local communities about the need to extend construction hours, including the potential benefits and impacts, and inviting feedback on the proposal.

The following communication objectives have underpinned community consultation:

- Develop a strategic communications plan to support proactive community consultation about the proposal to extend construction hours,
- Engage effectively with the community to obtain feedback about the proposal; and
- Identify potential issues associated with extended construction hours and use resident and stakeholder feedback to inform the development of tailored mitigation strategies.

Consultation with the local community is recognised as the lynch pin to ensure the proposal to extend construction hours is cognisant of community issues and identifies potential mitigation strategies.

Effective consultation has also provided an opportunity to inform the community about the proposal and engage affected residents and stakeholders in developing collaborative solutions that will minimise potential impacts.

The community consultation program reflects the International Association for Public Participation (IAP2) model of engagement and has been delivered in three phases, as outlined below:

#### Phase 1: Inform and consult

A notification about the proposal to extend construction hours has been delivered by Australia Post to 2,351 potentially affected households and businesses across the project footprint, including delivery to street roadside, PO boxes and counter services. The mailout details are summarised below:

Table 3 – Summary of mailout details

| Postcode | Locality Name | Total Count |
|----------|---------------|-------------|
| 2481     | EWINGSDALE    | 247         |
| 2481     | MYOCUM        | 186         |
| 2481     | TALOFA        | 16          |
| 2479     | BANGALOW      | 1075        |

|       |               |       |
|-------|---------------|-------|
| 2479  | BROOKLET      | 94    |
| 2479  | COOPERS SHOOT | 112   |
| 2479  | KNOCKROW      | 68    |
| 2479  | MCLEODS SHOOT | 20    |
| 2479  | NEWRYBAR      | 203   |
| 2479  | POSSUM CREEK  | 80    |
| 2478  | TINTENBAR     | 250   |
| Total |               | 2,351 |

The notification included a separate feedback form (with reply paid envelope) designed to survey the level of community support for the proposal and to identify issues and potential mitigation strategies.

The following sensitive receivers were contacted by phone at the time of the mail out to arrange a briefing about the proposal:

- Macadamia Castle,
- Ewingsdale community hall and church,
- Feros Village, Bangalow,
- Brook Farm,
- High Valley stone fruit orchard,
- Newrybar Public School; and
- Bangalow Chamber of Commerce.

The proposal was also discussed at a community information session on 25 June 2013, and printed copies of the notification and feedback form were made available at the session. The invitation to provide feedback was promoted as widely as possible, including:

- Media release,
- Variable message signs,
- Newsflash on the project website with a link to the proposal and feedback form; and
- E-alert to the project database.

#### Phase 2: Involve

Feedback was analysed to determine the level of community support for the proposal to extend construction hours. Issues raised were collated and used to inform the decision making process and in the development of appropriate mitigation measures in relation to the subject proposal.

A written consultation report based on this feedback has been developed and is included as Appendix 1 to this assessment.

#### Phase 3: Collaborate

The project team collaborated directly with affected residents and key stakeholders, including sensitive receivers, to address specific concerns and to develop innovative and tailored solutions, as required e.g. meetings and briefings with key stakeholders and sensitive receivers.

Community advice and recommendations have been incorporated into the decision making process to the maximum extent possible.

The community will be informed about the outcome of the submission to DP&I via public advertisement, project website, community information sessions and notifications to directly affected residents, as required.



Additional notifications will also be developed and distributed to directly affected residents and stakeholders to communicate local arrangements and tailored mitigation strategies for the proposed extended construction hours, as required.

The following communication tools were used to support community consultation regarding the proposal to extend construction hours:

Table 4 – Communication tools

| Communication tool   | Directly affected residents | General public/local communities |
|--|-----------------------------|----------------------------------|
| Letter of notification about proposal  | ✓                           | ✓                                |
| Feedback form  | ✓                           | ✓                                |
| Targeted consultation with key resident and stakeholders                             | ✓                           |                                  |
| Advertisement about extended hours consultation (local print media)                  |                             | ✓                                |
| Media release about extended hours consultation (regional media)                     |                             | ✓                                |
| Community information sessions   |                             | ✓                                |
| Community display centre   |                             | ✓                                |
| Website updates  | ✓                           | ✓                                |
| Project information line (toll free 1800 882 787)                                    | ✓                           | ✓                                |
| Project email <a href="mailto:communityinfo@t2e.com.au">communityinfo@t2e.com.au</a> | ✓                           | ✓                                |
| E-alert to database to inform and invite feedback                                    | ✓                           |                                  |
| VMS signs on highway to advertise proposal and invite feedback                       |                             | ✓                                |

### 3.1 Key messages

The following key messages were used consistently throughout the consultation delivery to ensure clear and simple messaging about the proposal, the potential impacts and the benefits.

M1 The project team is considering seeking approval by DP&I to modify the standard construction hours for the project.

- Current approved work hours are Monday to Friday 7am to 6pm and Saturday 8am to 1pm.
- The proposed extended work hours for the duration of the project would be Monday to Friday 6.30am to 7pm and Saturday 7am to 4pm.

M2 The project team is seeking community feedback about the proposal to extend construction hours.

- Feedback will be used to gauge the level of community support for the proposal and identify potential community issues on the proposal.
- A report on the feedback will be incorporated into the proposal for submission to DP&I.

M3 The potential impacts of extended construction hours on residents and stakeholders include:

- Possible construction noise, dust and vibration impacts.
- Potential minor delays for road users, subject to traffic management.

M4 The benefits of extended construction hours would include:

- Increased project efficiencies resulting in reduced overall duration of construction impacts to residents and road users.

- Maximising working hours during the dry periods of weather.
- Utilising extended natural light at certain times of the year (summer).
- A potential offset for weather disruptions to construction work.

M5 If the extension to construction hours is approved, the project team would consult further with stakeholders who have previously expressed objections to extended hours to discuss potential mitigation measures, including:

- Scheduling noisy works at less sensitive time periods.
- Limiting reversing to minimise use of reversing beepers during extended hours.
- Shielding lights to ensure they are not pointing towards residences.
- Sound baffling and shielding of the worksite and equipment where possible.
- Construction noise and vibration levels will be monitored in accordance with the NVMSP.
- Ongoing dust monitoring will continue.
- Respite periods from high impact works as negotiated with directly affected stakeholders.
- Provision of alternative accommodation where all other mitigation options have been exhausted.

M6 We will continue to consult with the community to keep you informed.

### 3.2 Communication calendar

The following activities were delivered during implementation of the consultation strategy.

Table 5 – Activities during implementation of the consultation strategy

| Date/Timing                | Activity  | Stakeholder   |
|----------------------------|---|---|
| Week commencing 17/06/2013 | Targeted consultation to coincide with mailout — individual briefing offered to all sensitive receivers (see also 2.2.1 Sensitive receiver consultation). | Sensitive receivers   |
| Week commencing 17/06/2013 | Letter of notification and feedback form sent to households and businesses via Australia Post (including PO Boxes and counter services).                  | Potentially affected residents and businesses across project alignment (total 2351) |
| 25/06/2013                 | Proposal presented at two community information sessions (CIS) held on the same day (AM and PM).  | General public  |
| 25–26/06/13                | Doorknock x 45 business properties to invite feedback and identify issues/concerns.   | Bangalow business community   |
| 26/06/13–8/07/13           | VMS signs about proposal and feedback:<br>PROPOSED EXTENDED WORK HRS<br>FEEDBACK 1800 882 787   | Travelling public   |
| 27/06/13                   | E-alert (mass email) about proposal sent to database with attachments (letter + feedback form).   | Project stakeholders x 416 registered on database                                   |
| 03/07/13                   | Proposal presented to Bangalow Chamber of Commerce (sensitive   | Bangalow Chamber of Commerce  |



| Date/Timing | Activity  | Stakeholder |
|-------------|---|-------------|
|             | receiver)   |             |
| 08/07/2013  | Feedback closed.  |             |
| 29/07/2013  | Consultation report (including issues) provided to RMS. | RMS         |

### 3.3 Feedback Summary

The following table summarises the community feedback by project stakeholder groups as the result of the consultation detailed within the previous section.

Table 6 – Community feedback by project stakeholder groups

| Stakeholder                       | Date                           | Communication tool  | Recipients/attendees     | Feedback                          |
|-----------------------------------|--------------------------------|---|--------------------------|-----------------------------------|
| Residents/PO Boxes and businesses | w/c 17 June 2013               | Letter and feedback form                                    | 2351                     | 284                               |
| General public (CIS attendees)    | 25 June 2013 (12pm and 5:30pm) | CIS presentation<br>Feedback form                           | 33                       | 2                                 |
| Bangalow businesses               | 25–26 June 2013                | Letter and feedback form (delivered via doorknock)          | 45                       | 14                                |
| Bangalow Chamber of Commerce      | 3 July 2013                    | Power point presentation and Project Director Feedback form | Chamber x 10 members     | 1 (on behalf of the Chamber)      |
| All stakeholders                  | w/c 17 June 2013               | Letter and feedback form                                    | All recipients/attendees | 2138 (no response = no objection) |
| Total                             |                                |   | 2439                     | 2439                              |

### 3.4 Feedback Analysis

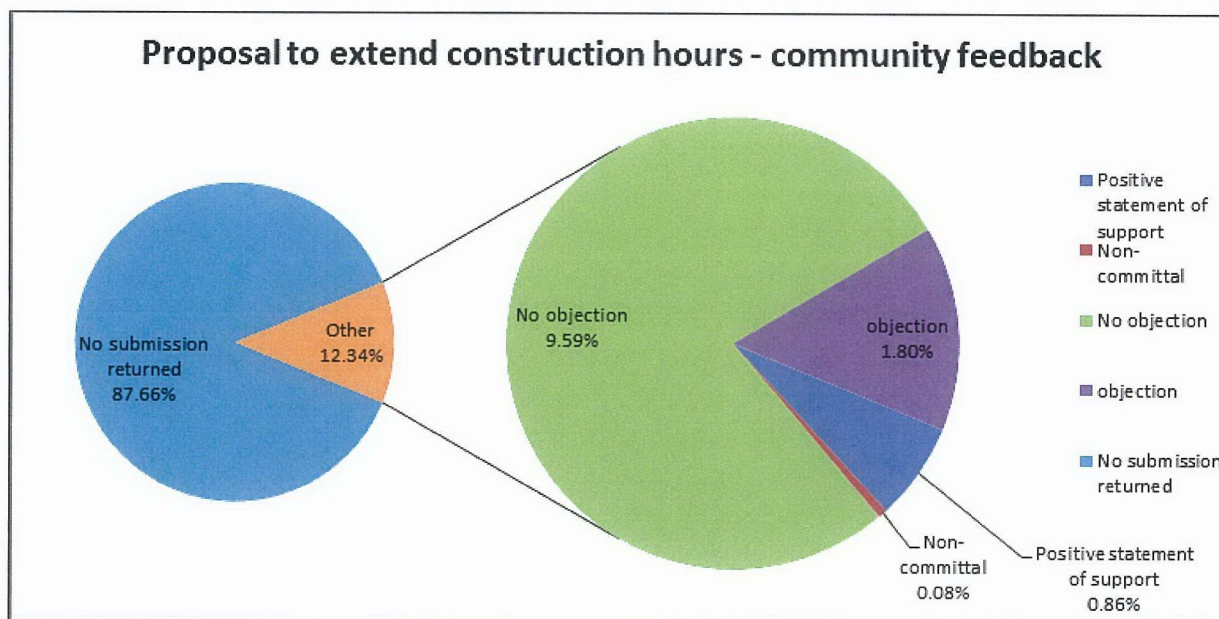


Figure 9 - Feedback submissions

As noted in Figure 9: Feedback Analysis above, 2138 responses were not returned. As the reply paid feedback form clearly stated, "Feedback forms that are not returned will be understood to be a non-objection to the proposal." It is understood that these non-responses are non-objections. On this basis, 87.66 per cent of stakeholders did not express objection to the proposal. Of responses received, 10.53 per cent of stakeholders supported, were non-committal or had no objection to the proposal. In total, taking into account submissions not returned and submissions returned that did not provide an objection to the proposal, 98.11 per cent of stakeholders who were consulted expressed no objection.

### 3.5 Feedback by locality

It was recognised that individual communities may have unique opinions in relation to the proposal. This is particularly the case for communities that may be directly affected by the proposal and/or those that are the closest to the Project alignment. As such, in order to further understand community feedback based on geographical location, responses have been analysed based on the location of each respondent (see Figure 10: Summary of feedback by locality below).

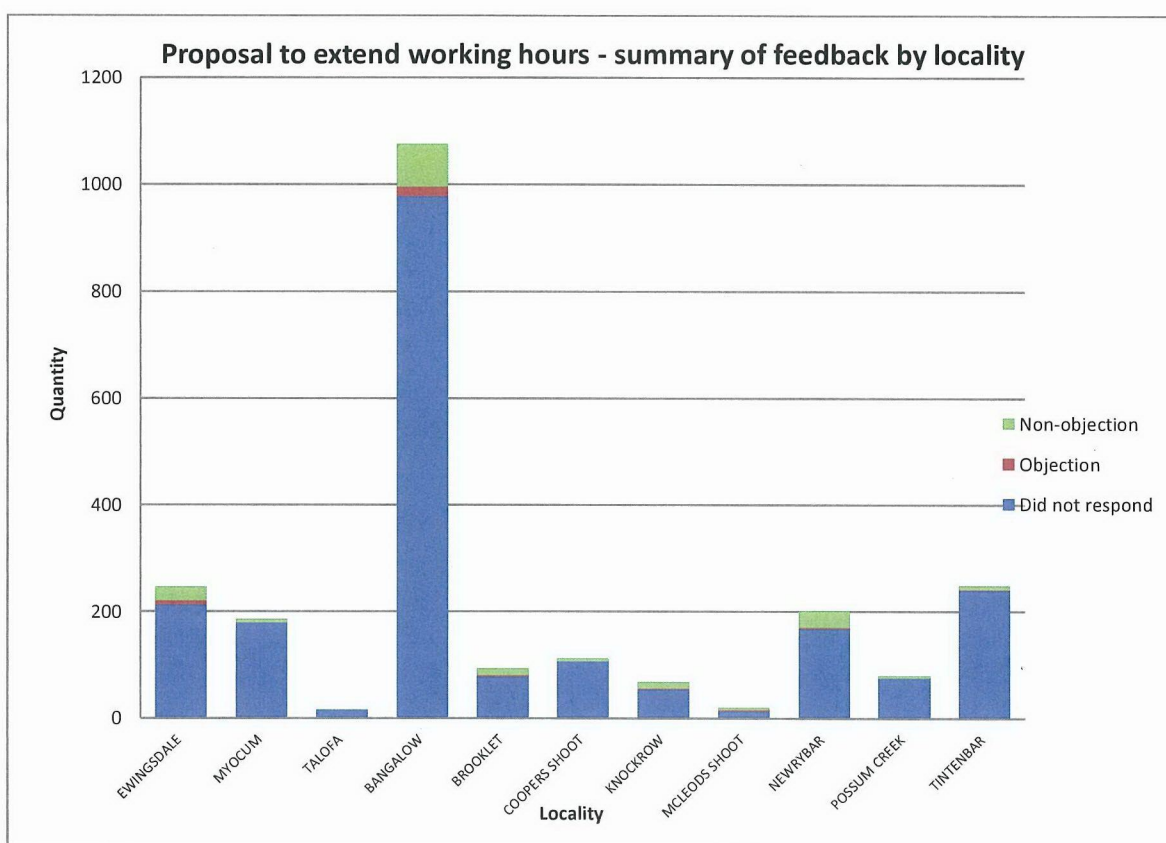


Figure 10 - Summary of feedback by locality

As shown within the above graph, there is a relatively even distribution of non-objections and objections across localities. Significantly, the most densely populated localities (Ewingsdale, Bangalow, Newrybar and Tintenbar) recorded the highest number of non-objections (including non-responses), indicating support for the proposal across all localities. Further analysis of responses provided by individual localities is outlined within the following table.



Table 7 – Analysis of feedback by locality

| Postcode | Locality  | Number of mail points in phase one consultation | Responses    |                            | Key issues raised  | Frequency/context  | Summary of statement of support and reasoning  |
|----------|-----------|---|--------------|----------------------------|--|--|--|
|          |           |   | No objection | Objection                  |  |  |  |
| 2478     | Tintenbar | 250   | 8            | 2                          | <ul style="list-style-type: none"> <li>• Traffic impacts</li> <li>• Noise</li> </ul>   | <ul style="list-style-type: none"> <li>• Traffic impacts x 1 objection</li> <li>• Noise x 2 objections</li> </ul>  | Nil  |
| 2479     | Bangalow  | 1,075   | 80           | 16                         | <ul style="list-style-type: none"> <li>• Traffic impacts (particularly heavy vehicles)</li> <li>• Noise</li> <li>• Dust</li> <li>• Other: <ul style="list-style-type: none"> <li>– Early start (6.30am considered too early)</li> <li>– Weekend work (objection to Saturday hours)</li> <li>– Lifestyle impacts</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Traffic impacts (particularly heavy vehicles) x 7 objections</li> <li>• Noise x 10 objections</li> <li>• Dust x 2 objections</li> </ul> | <ul style="list-style-type: none"> <li>• Faster project completion x 7</li> <li>• Subsequent benefits cited included: minimised community impacts, safer highway and an off set to rain impacts</li> </ul> |
| 2479     | Brooklet  | 94  | 13           | 3 (including one business) | <ul style="list-style-type: none"> <li>• Noise</li> <li>• Traffic impacts</li> <li>• Dust</li> </ul>   | <ul style="list-style-type: none"> <li>• Noise x 1 non-objection, x 1 objection</li> <li>• Traffic impacts x 1 non-objection</li> <li>• Dust x 1 non-objection</li> </ul>        | <ul style="list-style-type: none"> <li>• Faster project completion x 1</li> </ul>  |

| Postcode | Locality   | Number of mail points in phase one consultation | Responses                                    |                           | Key issues raised  | Frequency/context  | Summary of statement of support and reasoning  |
|----------|--|---|--|---------------------------|--|--|--|
|          |  |   | No objection                                 | Objection                 |  |  |  |
| 2479     | Coopers Shoot  | 112   | 6  | 0                         | N/A  | N/A  | Nil  |
| 2479     | Knockrow   | 68  | 13   | 2                         | <ul style="list-style-type: none"> <li>Noise</li> </ul>  | N/A  | Nil  |
| 2479     | McLeods Shoot  | 20  | 5  | 2                         | <ul style="list-style-type: none"> <li>Noise</li> </ul>  | <ul style="list-style-type: none"> <li>Noise x 2 objections</li> </ul>   | <ul style="list-style-type: none"> <li>Faster projection completion x 1</li> <li>Subsequent benefit cited was a safer highway</li> </ul>                                       |
| 2479     | Newrybar   | 203   | 32   | 3                         | <ul style="list-style-type: none"> <li>Dust</li> <li>Noise x 2 objection</li> <li>Other: <ul style="list-style-type: none"> <li>Vibration</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>Dust x 1 with objection, 1 x non-objection</li> <li>Noise x 2 objections</li> </ul> | <ul style="list-style-type: none"> <li>Faster project completion x 2</li> <li>Modest change (therefore supported) x 1</li> <li>Should have already been applied x 1</li> </ul> |
| 2479     | Possum Creek   | 80  | 4  | 0                         | N/A  | N/A  | <ul style="list-style-type: none"> <li>Faster project completion x 2</li> </ul>  |
| 2481     | Ewingsdale   | 247   | 25<br>(including Ewingsdale Progress Assoc.) | 8                         | <ul style="list-style-type: none"> <li>Noise</li> <li>Dust</li> </ul>  | <ul style="list-style-type: none"> <li>Noise x 5 objections</li> <li>Dust x 3 objections</li> </ul>                        | <ul style="list-style-type: none"> <li>Maximising periods of dry weather x 1</li> </ul>  |
| 2481     | Myocum   | 186   | 7  | 0                         | N/A  | N/A  | Nil  |
| 2481     | Talofa   | 16  | 1  | 0                         | N/A  | N/A  | Nil  |
| Various  | Additional localities: <ul style="list-style-type: none"> <li>Broken Head</li> <li>Byron Bay</li> <li>Lennox Head</li> <li>Cumbalum</li> </ul> | N/A   | 56   | 5 (1 x Coorabell + 4 N/A) | <ul style="list-style-type: none"> <li>Traffic issues</li> </ul>   | <ul style="list-style-type: none"> <li>Traffic x 2 with objection, 1 x non-objection</li> </ul>                            | <ul style="list-style-type: none"> <li>Faster project completion x 5 (including 3 with no locality details provided)</li> </ul>  |



| Postcode | Locality   | Number of mail points in phase one consultation | Responses    |           | Key issues raised | Frequency/context | Summary of statement of support and reasoning |
|----------|--|---|--------------|-----------|-------------------|-------------------|---|
|          |  |   | No objection | Objection |                   |                   |   |
|          | <ul style="list-style-type: none"> <li>• Tyagarah</li> <li>• Federal</li> <li>• Coorabell</li> </ul> |   |              |           |                   |                   |   |

In relation to objections received, from the table above it can be noted that the main issues raised by respondents included noise, vibration, traffic, dust and lifestyle impacts. Table 8 details these issues and Project responses, including measures that would be implemented to minimise potential impacts.

Table 8 – Objection summary and project response

| Issue               | Project response   |
|---------------------|--|
| Noise and vibration | <p>Should the proposal be approved, the Project has committed to not undertaking high noise and vibration impact generating activities within 300 metres of sensitive receivers during extended hours.</p> <p>Noise monitoring would be undertaken to verify that noise levels do not exceed those detailed within the NVMSP and this report. This monitoring would be in addition to the existing monitoring required under the Project NVMSP. Appropriate actions would be taken should an exceedance be identified in approved noise levels.</p> <p>An appropriately trained and qualified Boulderstone Pty Ltd environmental professional would be available at all times during all Project operations incorporating the proposed extended hours to actively implement the provisions of the NVMSP and investigate and assist with responding to any community complaints in relation to the subject works.</p> <p>Potential noise and vibration impacts and associated mitigation measures are further discussed within Section 4 of this report.</p> <p>The subject extension of hours would not increase the dispersion level of vibration attributable to the Project as the works would incorporate approved activities within the Project alignment. In addition, it can be noted that the proposal would decrease the overall duration of vibration impacts due to the extended hours of construction.</p> <p>Notwithstanding the above, the vibration goals and relevant mitigation measures detailed within the Project NVMSP would apply to the subject works. In addition, the mitigation measures detailed within Section 4 of this assessment would be implemented to minimise any additional potential impacts associated with the proposal.</p> <p>Potential vibration impacts and associated mitigation measures are further discussed within Section 4 of this report.</p> |
| Traffic             | <p>While traffic impacts associated with the subject proposal would be similar in nature to those experienced as part of the approved Project, it is acknowledged that the short term duration of these impacts would increase as a result of the proposal.</p> <p>While the proposed modification to working hours would result in greater short term traffic impacts, the overall duration of these impacts would be reduced which would result in the faster achievement of the traffic and road user benefits that would flow from Project operation.</p>  |



| Issue                       | Project response  |
|-----------------------------|---|
|                             | <p>Traffic impacts associated with the Project would continue to be managed in accordance with the approved Traffic and Safety Management Plan.</p> <p>Potential traffic impacts and associated mitigation measures are further discussed within Section 4 of this report.</p>  |
| Air quality                 | <p>With the exception of excluded activities which are specified in Section 2.4 of this report, all other Project activities are proposed to be undertaken during the subject extended hours. As such, it would be anticipated that air quality impacts for activities undertaken during the extended hours would be similar to those experienced during approved construction hours. Although there may be a minor increase in short term cumulative dust levels as a result of additional hours of construction associated with the Project, these impacts would be counteracted in part by the decreased overall duration of these activities due to earlier Project completion. While this short term increase would be unlikely to significantly contribute to exceedance of Project dust goals as prescribed by the Project Air Quality Management Sub Plan (AQMSP) they may create some short term nuisance to identified sensitive receivers. Any non-compliance with Project dust goals would be managed in accordance with the Project AQMSP.</p> <p>Potential dust impacts and associated mitigation measures are further discussed within Section 4 of this report.</p>   |
| Social and economic impacts | <p>It is acknowledged that the proposed extension of standard construction hours may have some minor negative impacts upon the lifestyle of surrounding residents during the construction phase of the approved Project. However, these impacts would be counteracted by the earlier completion of construction of the approved Project, minimising the overall duration of these impacts and allowing the benefits of the approved Project to be realised sooner than if the proposed extension to standard construction hours was not approved.</p> <p>It can also be noted that the CSMREWH included as Appendix 1 to this assessment would be implemented to assist further in management and reduction of potential socio-economic impacts. The implementation of this strategy would ensure that residents, local businesses and other sensitive receivers would be kept informed about the works through open dialogue. Mutually agreed mitigation strategies would be developed and implemented to address potential socio-economic impacts of the proposed modification as they may arise.</p> <p>Potential socio-economic impacts and associated mitigation measures are further discussed within Section 4 of this</p> |

| Issue | Project response |
|-------|------------------|
|       | report.          |

In relation to objections received, these issues have been assessed in the development of this report. This assessment has found that the implementation of the measures contained within the approved CEMP and sub-plans, combined with the measures detailed within Section 4 of this assessment could be implemented to effectively manage these potential impacts.

It can also be noted that in relation to works outside of standard construction hours undertaken in accordance with the Project NVMSP to date, only two complaints have been received. With regard to these complaints, it was found that the noise levels attributable to the works were within the noise level goals as detailed within the NVMSP. In one of these instances a negotiated agreement had also been established between the Project and the complainant prior to the complaint being received.

As part of works outside of standard construction hours undertaken to date, residents have been informed prior to the scheduled works to ensure a 'no surprises approach', including specific mention of the impacts and mitigation measures. For example, the Project team was commended for the consultation process and mitigation measures implemented during an out-of-hours concrete pour at Emigrant Creek on Wednesday 23 April 2013 between 3am and 6am. One resident provided the following feedback to the Project team on 29 April 2013 in relation to these works, "I get up early...I heard a slight buzz, but it was better than truck noises. The family slept through it".

If the proposed working hours modification is approved, the project team would continue to work proactively with directly affected residents, businesses and community stakeholders to inform, consult and collaborate in the development of strategic and tailored solutions to minimise construction impacts.

### 3.6 Consultation with ERG

The proposed modification was presented to the ERG on 27 February 2013. At this meeting, the Environment Protection Authority (EPA) suggested that, dependent on activities undertaken, the provisions of the Project Environment Protection Licence (EPL) would not necessarily need to be amended to accommodate the proposed modification to working hours. The EPA also suggested that the Project should apply the learnings from the Pacific Highway Upgrade – Banora Point, by making the community aware of the potential impacts of the proposed modification prior to its implementation. The EPA suggested that this could be done through the proposed community consultation strategy to be implemented in relation to the modification.

In response to this, it should be noted that the level of consultation and management of community issues as well as positive feedback received far exceeds what was undertaken and achieved by the Pacific Highway Upgrade – Banora Point.

No other comments were received from any other ERG member in attendance.

Revision 0 of this assessment was circulated to all ERG members for review on 14 August 2013 (ProjectCentre correspondence reference: ENV:BPL-BPL#0019).

The proposal was discussed again at the ERG of 28 August 2013 (see agenda and minutes in Appendix 3). No comments were received from agencies during this presentation.

A reminder to respond email was then circulated to all ERG members on 29 August 2013. Following this correspondence, comments were received from the EPA, Project Environmental Representative and Ballina Shire Council. These comments are detailed within Table 9 below. No other comments from ERG members were received. All ERG member comments are provided within Appendix 3 to this assessment.



Senior Officers from RMS, EPA and DP&I also had a teleconference on 17 September 2013 to address and further understand the issues raised by the EPA in its comments made on the previous draft of the document. These issues have been taken into account in this final submission.

Table 9 – ERG Member Comments

| ERG Member Comments   | Response   |
|---|--|
| <p>Environment Protection Authority (comments received 2 and 3 September 2013)</p> <p>The EPA understands that the document was developed to assess the benefits and potential impacts of extending the standard approved working hours by ½ an hour in the morning and 1 hour in the evening Monday to Friday and for an additional 1 hour in the morning and 3 hours in the afternoon on Saturdays.</p> <p>The standard working hours under the Interim Construction Noise Guidelines (ICNG) and standard Environment Protection Licence (EPL) conditions are as follows:</p> <ul style="list-style-type: none"> <li>• 7:00am to 6:00pm Monday to Friday; and</li> <li>• 8:00am to 1:00pm Saturday.</li> </ul> <p>The proposed extended hours are as follows:</p> <ul style="list-style-type: none"> <li>• 6:30am to 7:00pm Monday to Friday; and</li> <li>• 7:00am to 4:00pm Saturday.</li> </ul> <p>The modification request refers to section 2.3 of the ICGN which identifies 5 categories of work that that may be undertaken outside of the recommended standard hours and that two of these categories are considered to be relevant and support the proposal. The two categories are:</p> <ul style="list-style-type: none"> <li>• Public infrastructure works that shorten the length of the project and are supported by the affected community (Note – it does not specify a % of the community or the whole community);</li> <li>• Works where the proponent demonstrates and justifies a need to operate outside of the recommended hours (Note – the need identified is to shorten the length of the project by an estimated 2 ½ months).</li> </ul> <p>The ICGN clarifies that in the last two categories (those referred to above) that the proponent should provide the relevant authority with clear justification for reasons other than convenience, such as to sustain operational integrity of road, rail and utility networks. This need is typically based on a requirement to <u>sustain the</u></p> | <p>Noted.</p> <p>The potential cumulative effects of the proposal are considered throughout this assessment and summarised within Section 4.5. This assessment has found that the most significant potential cumulative impact of the subject proposal would be the exacerbation of environmental and community impacts already experienced as the result of standard construction activities, as these activities would be undertaken over a longer period per week. Notwithstanding short term impacts, the proposed modification would allow for the faster completion of the Project, therefore reducing the longevity of those impacts. This assessment has also found that the approved Project CEMP and associated sub-plans would be sufficient to manage the potential impacts associated with the proposed extension to working hours as detailed within Section 4 of this assessment.</p> <p>It should also be noted that the Project has tailored the proposed work activities to be undertaken during the proposed extended hours to minimise community impacts.</p> <p>Significant community consultation has been undertaken in the assessment of this proposal. This consultation has found that the majority of potentially affected receivers are in support of the proposal. This assessment has identified areas where objections have been received. Within 300 metres of these areas restrictions would be implemented to minimise impacts on these receivers.</p> <p>In relation to securing agreement with Project stakeholders, the Project has 2,351 potentially affected receivers and 2,439 registered community stakeholders. To gain agreement with all receivers would be impractical.</p> <p>It can also be noted that due to the nature of the Project requiring materials haulage over the entire Project alignment, the benefits of the</p> |



| ERG Member Comments  | Response   |
|--|--|
| <p><u>operational integrity</u> of public infrastructure, as works to <u>restore operation</u> of the infrastructure provide benefit to the greater community.</p> <p>The EPA notes that the benefits listed in table one of the modification request which include, a safer section of highway, greater transport efficiency, supporting growth etc...are genuine long term benefits but do not support the likely cumulative affects to the community over an estimated 24 month construction period.</p> <p>The modification request identifies impacts including:</p> <ul style="list-style-type: none"> <li>• Longer impacts of standard construction activities each week and less downtime (respite) for residents each week over the next 24 months;</li> <li>• That the extension of standard hours plus additional out of hours works may cause cumulative effects especially with regard to dust, noise and vibration impacts;</li> <li>• The extension of hours into the evening and night time periods will result in reducing the relevant noise goals and increasing the number of exceedances of the noise level goals attributable to construction.</li> <li>• The extension of Saturday hours would result in the completion of the project approximately 1 month sooner, but benefit would be outweighed by the impacts that the hours would have on the community and project personnel (scenario 3 page 16).</li> </ul> <p>And states that 85% of respondents (301 of 2439 stakeholders) to the consultation have no objection to the proposal.</p> <p>The EPA does not support the wholesale extension of working hours and Boulderstone should look for opportunities to undertake works in accordance with the existing conditions of the EPL which allow works to be completed in the following ways:</p> <ol style="list-style-type: none"> <li>1. During standard construction hours across the entire site.</li> </ol> <p>L4.1 Standard construction hours</p> | <p>proposal would be significantly minimised if the extended hours could not be applied over the entire Project. An example of this is the need to transport fill material from the largest earth cut at Arundel Hill (chainage 22700) in the central section of the Project to the Projects largest earth fill (chainage 28600) at Ewingsdale. In relation to the Ewingsdale location, this area has also received the second largest number of objections to the proposal. Without the holistic application of the extended hours, the Project's most critical roadworks operations would not benefit from the proposal and therefore the benefits detailed within Section 2.1 would substantially not be realised. This factor has not been as significant to other Projects where agreements are able to be successfully achieved in order to facilitate critical works within discrete areas as referenced.</p> |

| ERG Member Comments   | Response |
|---|----------|
| <p>Unless otherwise specified by any other condition of this licence, all construction activities are:</p> <ul style="list-style-type: none"> <li>a) restricted to between the hours of 7:00am and 6:00pm Monday to Friday;</li> <li>b) restricted to between the hours of 8:00am and 1:00pm Saturday; and</li> <li>c) not to be undertaken on Sundays or Public Holidays.</li> </ul> <p>2. In accordance with the exemptions to standard hours.</p> <p>L4.2 Exemptions to standard construction hours<br/>The three categories of works that may be undertaken outside the standard hours of operation permitted by Condition L4.1 are:</p> <ul style="list-style-type: none"> <li>a) the delivery of oversized plant or structures that police or other authorised authorities determine require special arrangements to transport along public roads;</li> <li>b) emergency work to avoid the loss of lives or property, or to prevent environmental harm;</li> <li>c) works that are not more than 5 dB(A) over the rating background level at the nearest noise sensitive receiver as assessed by acoustic investigation.</li> </ul> <p>3. In accordance with the condition which allows agreements to be reached with affected receivers.</p> <p>L4.3 Works agreed outside of standard construction hours<br/>The licensee may undertake works outside of standard construction hours if agreement between the licensee and representatives of potentially affected noise sensitive receivers has been reached. Any agreement(s) between the licensee and the potentially affected noise sensitive receivers must be recorded in writing and a copy of the agreement(s) kept on the premises by the licensee for the duration of this licence.</p> <p>4. Or by offering alternative accommodation for the duration of the works, which results in there not being a sensitive receiver for the duration of the works.</p> <p>By identifying sections of the project where there are few sensitive receivers, where receivers are significant distances from the activities, or where agreements can be reached (as has been the case at this and other projects) a lot of additional work can be undertaken without undue/unreasonable and unjustified impacts on members of the community who value their lifestyle and/or opportunity to have</p> |          |



| ERG Member Comments  | Response   |
|--|--|
| respite from the construction works necessary to complete this project.  |  |
| The environmental assessment does not assess the impact of extended works hours on the Large-footed Myotis ( <i>Myotis adversus</i> ) roost site associated with Emigrant Creek. In this respect, Ecological Australia prepared a microbat survey report for the RTA to satisfy the Department of Planning's Condition of Approval 2.5. The report included, a range of management actions aimed at ensuring road construction had a minimal impact on the species. Section 9 of the report contains a range of construction mitigation measures which include, exclusion zones, seasonal closures, restricted work activities and altered scheduling. The information submitted by Boulderstone fails to identify how the project will comply with the requirements of the abovementioned plan. However, it is considered that unrestricted work activities within close proximity to the roost site have the potential to have a significant adverse impact. Consequently, the application is required to be updated to demonstrate compliance with the bat management strategy. | The impacts of the proposal on the Large-footed Myotis have now been considered within Section 4.1 of this report. |
| Environmental Representative (comment received 4 September 2013)   |  |
| I have no comments.  | Noted.   |
| Ballina Shire Council (comment received 10 September 2013)   |  |
| Council has no comment on the Extended Hours Modification Report.  | Noted.   |

## 4 ENVIRONMENTAL ASSESSMENT

The following section provides an assessment of potential environmental and social impacts associated with the subject proposal. It can be noted that the proposed works would involve specific approved Project activities that would take place within the approved Project alignment as detailed within Table 1 of this report. As such, only relevant potential environmental and social impacts in addition to those assessed within the EA are considered within this assessment.

### 4.1 Noise and Vibration

#### 4.1.1 Existing environment

The quantitative assessment of noise and vibration impacts in relation to the approved Project was undertaken as part of the development of the EA for the concept design of the Project.

In addition to the above, further quantitative assessment of the impacts of Project noise generation was undertaken during the detailed design phase of the Project and during the preparation of the NVMSPP.

The results of noise monitoring undertaken during the development of the NVMSPP are detailed within the table below.

Table 10 – Background noise monitoring locations/data.

| Monitoring Period   | Logger location ID | Location   | Nearest Receiver ID | Approx Chainage | Rating background level |                      |                    |
|---------------------|--------------------|--|---------------------|-----------------|-------------------------|----------------------|--------------------|
|                     |                    |  |                     |                 | Day <sup>1</sup>        | Evening <sup>2</sup> | Night <sup>3</sup> |
| 6/03/12 to 15/03/12 | L1                 | 61 Myocum Road, Ewingsdale                         | 1307-HO1            | 30000           | 45                      | 46                   | 37                 |
| 6/03/12 to 15/03/12 | L2                 | 66 Plantation Drive, Ewingsdale                    | 1214-HO1            | 29150           | 39                      | 43                   | 39                 |
| 6/03/12 to 15/03/12 | L3                 | Mundun Pty Ltd, 26 Plantation Drive, McLeods Shoot | 1162-HO1            | 28200           | 38                      | 39                   | 39                 |
| 6/03/12 to 15/03/12 | L4                 | 18 St Helena Road, McLeods Shoot                   | 1147-HO1            | 28050           | 49                      | 46                   | 35                 |
| 7/03/12 to 15/03/12 | L5                 | 17 Blackwood Crescent, Bangalow                    | 896-HO9             | 24100           | 42                      | 38                   | 30                 |
| 6/03/12 to 15/03/12 | L6                 | 230 Pacific Highway, Bangalow                      | 683-HO1             | 23200           | 48                      | 49                   | 47                 |
| 6/03/12 to 15/03/12 | L7                 | 2095 Pacific Highway, Bangalow                     | 501-HO2             | 20700           | 47                      | 45                   | 39                 |
| 6/03/12 to 15/03/12 | L8                 | 13 Broken Head Road, Newrybar                      | 485-HO1             | 20600           | 51                      | 48                   | 36                 |
| 6/03/12 to 15/03/12 | L9                 | 16 Old Pacific Highway, Newrybar                   | 424-HO1             | 20050           | 50                      | 44                   | 38                 |



| Monitoring Period    | Logger location ID | Location                        | Nearest Receiver ID | Approx Chainage | Rating background level |                      |                    |
|----------------------|--------------------|---------------------------------|---------------------|-----------------|-------------------------|----------------------|--------------------|
|                      |                    |                                 |                     |                 | Day <sup>1</sup>        | Evening <sup>2</sup> | Night <sup>3</sup> |
| 6/03/12 to 15/03/12  | L10                | 18 Hambly Lane, Newrybar        | 344-HO1             | 19000           | 47                      | 45                   | 40                 |
| 6/03/12 to 15/03/12  | L11                | 1711 Pacific Highway, Knockrow  | 249-HO1             | 16800           | 37                      | 43                   | 38                 |
| 6/03/12 to 15/03/12  | L12                | 19 Ivy Lane, Knockrow           | 266-HO1             | 17500           | 49                      | 51                   | 44                 |
| 6/03/12 to 15/03/12  | L13                | 44 Martins Lane West, Knockrow  | 190-HO1             | 15300           | 50                      | 48                   | 39                 |
| 7/03/12 to 15/03/12  | L14                | 1374 Pacific Highway, Newrybar  | 146-HO1             | 14000           | 48                      | 47                   | 41                 |
| 15/03/12 to 28/03/12 | L15                | St Helena Road, McLeods Shoot   | 1120-HO2            | 28000           | 36                      | 37                   | 37                 |
| 15/03/12 to 28/03/12 | L16                | Tinderbox Valley, McLeods Shoot | 1101-HO1            | 26900           | 40                      | 44                   | 42                 |

1. Day (7:00am to 6:00pm); 2. Evening (6:00pm to 10:00pm); 3. Night (10:00pm to 7:00am)

The various approved Project roadwork activities each involve a number of noise sources. As such, sources have been grouped to determine typical noise levels for each activity. Activities have then been categorised as follows:

- Type 1: Activities with a sound power level of 116 to 120 dB(A), equivalent to 91 to 95 dB(A) at 7 metres.
- Type 2 Activities with a sound power level of 111 to 115 dB(A), equivalent to 86 to 90 dB(A) at 7 metres.
- Type 3 Activities with a sound power level of less than 110 dB(A), equivalent to less than 85 dB(A) at 7 metres.

Table 11 and Table 12 outline the typical noise levels for road and bridge works activities respectively and the relevant category.

Table 11: Typical noise levels for roadwork activities

| Sequence of Works           | Typical sound power levels<br>LW dB(A) ref: 10-12 W | Typical sound pressure level at 7 meters dB(A) | Noise Source Type |
|-----------------------------|---|--|-------------------|
| Fencing                     | 106   | 81   | 3                 |
| Sediment Basin Construction | 115   | 90   | 2                 |
| Clearing and Grubbing       | 112   | 87   | 2                 |
| Topsoil Strip/Stockpile     | 117   | 92   | 1                 |

| Sequence of Works  | Typical sound power levels<br>LW dB(A) ref: 10-12 W | Typical sound pressure level at 7 meters dB(A) | Noise Source Type |
|--|---|--|-------------------|
| Foundations Rip and Recompact                                  | 116   | 91   | 1                 |
| Foundations Bridging   | 116   | 91   | 1                 |
| Earthworks Prelim/Prep<br>Creeklines and Hillside<br>Terracing | 117   | 92   | 1                 |
| Cross Drainage   | 112   | 87   | 2                 |
| Earthworks Cut   | 118   | 93   | 1                 |
| Earthworks Fill  | 119   | 94   | 1                 |
| Crushing and Screening   | 120   | 95   | 1                 |
| Cut Foundation   | 116   | 91   | 1                 |
| Pavement Drainage  | 113   | 88   | 2                 |
| Select Placement   | 113   | 88   | 2                 |
| Pavement works   | 111   | 86   | 2                 |

Table 12: Typical noise levels for bridgework activities

| Sequence of Works                                      | Typical sound power levels<br>LW dB(A) ref: 10-12 W | Typical sound pressure level at 7 meters dB(A) | Noise Source Type |
|--|---|--|-------------------|
| Working platform construction (including sheet piling) | 117   | 92   | 1                 |
| Bored piling   | 111   | 86   | 2                 |
| Pile trimming  | 120   | 95   | 1                 |
| Pile caps construction                                 | 113   | 88   | 2                 |
| Pier construction                                      | 113   | 88   | 2                 |
| Abutments construction                                 | 113   | 88   | 2                 |
| Steel girder erection                                  | 110   | 85   | 3                 |
| Site welding   | 106   | 81   | 3                 |
| Girders installation                                   | 110   | 85   | 3                 |



|                      |     |    |   |
|----------------------|-----|----|---|
| Deck construction    | 114 | 89 | 2 |
| Barrier construction | 113 | 88 | 2 |

Noise contours of Type 3, 2 and 1 activities are shown in Appendices 4, 5 and 6 respectively and can be used as guidance to estimate noise from road works activities during the proposed extended hours. Contours shown correspond to noise emissions at the upper end of each source type (i.e. 120dB(A) sound power for Type 1, 115 dB(A) sound power for Type 2, and 110 dB(A) for Type 3). Receivers shown in red on the contour maps indicate the relevant ICNG management level at these locations are expected to be exceeded.

Table 13 presents a summary of potential evening and night-time exceedances in each Noise Catchment Area (NCA) as defined within the Project Noise and Vibration Impact Assessment (NVIA) for each noise source type.

Further to the above, it can be noted that working hour restrictions exist in relation to activities within 100 metres of a colony of Myotis Fishing Bats (*Myotis macropus*) which exist within an existing highway culvert at Emigrant Creek as detailed within the Project Flora and Fauna Management Sub-Plan (FFMSP). In relation to works during the proposed extended hours, works that would create noise or vibration above background levels would not occur within a 100 metre buffer of the Emigrant Creek Culvert or any other identified roosting site. In addition, no works may be undertaken within a minimum of 100 metres of Emigrant Creek Culvert or any other identified roosting site during the period of 30 minutes prior to and following the published sunrise time and for the period of 30 minutes prior to and following the published sunset time and flyways must be maintained at all times.

In relation to potential human comfort vibration impacts associated with the proposal, for disturbance to human occupants of buildings, Clause 6.8 of G36 refers to the Department of Environment and Conservation (DEC) Assessing Vibration: a Technical Guideline (AVTG). Under the AVTG, vibration sources are defined as continuous, impulsive or intermittent.

Preferred and maximum values for continuous and impulsive vibration are defined in Table 13. Maximum VDV<sub>s</sub> for intermittent vibration are defined in Table 2.4 of the AVTG and are reproduced in Table 14.

Table 13: Preferred and maximum weighted rms values for continuous and impulsive vibration acceleration (m/s<sup>2</sup>) 1-80Hz (Source: DEC AVTG, 2006)

| Location   | Assessment period <sup>1</sup> | Preferred values |          | Maximum values |          |
|--|--------------------------------|------------------|----------|----------------|----------|
|  |                                | z-axis           | x-y-axis | z-axis         | x-y-axis |
| Continuous vibration   |                                |                  |          |                |          |
| Residences   | Daytime                        | 0.010            | 0.0071   | 0.020          | 0.014    |
|  | Night-time                     | 0.007            | 0.005    | 0.014          | 0.010    |
| Offices, schools, educational institutions and places of worship | Day- or Night-time             | 0.020            | 0.014    | 0.040          | 0.028    |
| Workshops  | Day or Night-time              | 0.04             | 0.029    | 0.080          | 0.058    |
| Impulsive vibration  |                                |                  |          |                |          |
| Residences   | Daytime                        | 0.30             | 0.21     | 0.60           | 0.42     |
|  | Night-time                     | 0.10             | 0.071    | 0.20           | 0.14     |
| Offices, schools, educational institutions and places of worship | Day or Night-time              | 0.64             | 0.46     | 1.28           | 0.92     |
| Workshops  | Day or Night-time              | 0.64             | 0.46     | 1.28           | 0.92     |

*1. Daytime is 7.00 am to 10.00 pm and night-time is 10.00 pm to 7.00 am*

Table 14: Acceptable vibration dose values for intermittent vibration ( $\text{m/s}^{1.75}$ ) – (reference: DEC AVTG, 2006)

| Location   | Daytime <sup>1</sup> (maximum values) | Night-time <sup>1</sup> (maximum values) |
|--|---------------------------------------|--|
| Residences   | 0.40                                  | 0.26                                     |
| Offices, schools, educational institutions and places of worship | 0.80                                  | 0.80                                     |
| Workshops  | 1.60                                  | 1.60                                     |

*1. Daytime is 7.00 am to 10.00 pm and night-time is 10.00 pm to 7.00 am*

As the proposal would incorporate works over both the daytime and night-time as defined by the AVTG, both daytime and night-time vibration goals would apply to works undertaken during the proposed extended hours.

#### 4.1.2 Potential impacts

The subject extension of hours would not increase the level of noise or vibration attributable to the Project as the works would incorporate approved activities within the Project alignment. As such, the noise impacts as detailed within the NVMSP provide an appropriate representation of noise and vibration impacts that would be experienced during the extended working hours.

While productive construction activities would be undertaken throughout the extended hours as detailed within Section 2.4 of this report, a substantial proportion of activities during these times would include vehicle and plant 'warm up', site cleanup, concrete pouring, vehicle and machinery refueling and maintenance and 'sealing' of working areas as well as other low noise generating activities such as steel fixing and installation of temporary overnight/weekend erosion and sediment controls. These activities would substantially occur during these periods as the proposed extended hours would occur towards the beginning and the end of the productive working day.

Notwithstanding the above, it can be noted that the proposed extended working hours would occur during evening and night time hours as detailed within the ICNG. This would have the effect of reducing the relevant noise goals, and increasing the potential number of exceedances of noise level goals attributable to construction as detailed within the ICNG. In order to determine the likely extent of these exceedances, noise modelling has been undertaken in relation to the proposed extended hours. This modelling has been included within Appendix 4.6 of this report. A summary of predicted exceedances of relevant noise goals based on this modelling is provided within Table 15 below. Note that this modelling assumes full operation of type 1 activities, without taking into account the restrictions as detailed within Section 2.4 of this assessment. Therefore this modelling can be taken to be a conservative representation of predicted noise levels.



Table 15 – Potential evening and night time exceedances attributable to extended working hours

| NCA | Number of receivers predicted to exceed ICNG criteria |                         |        |                        |                        |                         |
|-----|---|-------------------------|--------|------------------------|------------------------|-------------------------|
|     | Evening (6pm – 10pm)                                  |                         |        | Night (10pm – 7am)     |                        |                         |
|     | Type 1  | Type 2                  | Type 3 | Type 1                 | Type 2                 | Type 3                  |
| 1E  | >10   | >10                     | 1      | >10                    | >10                    | >10                     |
| 1W  | >10   | 9                       | 7      | >10                    | >10                    | 8                       |
| 2E  | >10   | 4                       | Nil    | >10                    | >10                    | 6                       |
| 2W  | 4   | 2                       | 1      | 4                      | 4                      | 2                       |
| 3E  | >10   | >10                     | 4      | >10                    | >10                    | >10                     |
| 3W  | >10   | >10                     | 2      | >10                    | >10                    | >10                     |
| 4E  | 10  | 6                       | 2      | >10                    | >10                    | 10                      |
| 4W  | >10   | 6                       | 2      | >10                    | >10                    | >10                     |
| 5   | Most Bangalow receivers                               | Most Bangalow receivers | >10    | All Bangalow receivers | All Bangalow receivers | Most Bangalow receivers |
| 6E  | >10   | >10                     | 8      | >10                    | >10                    | 8                       |
| 6W  | >10   | 5                       | 2      | >10                    | 5                      | 2                       |
| 7   | >10   | >10                     | 6      | >10                    | >10                    | 6                       |
| 8E  | >10   | >10                     | 2      | >10                    | >10                    | 4                       |
| 8W  | 7   | 5                       | 1      | 9                      | 9                      | 7                       |

It can be noted that the proposed works outside of standard construction hours would occur near the border of night/day and day/evening. These periods are considered 'shoulder' periods in terms of assessing against the respective criteria. The ICNG refers to the *Industrial Noise Policy* (INP) (NSW EPA, 2000) for these situations. Section 3.3 of the INP states that:

*'...where early morning (5am – 7am) operations are proposed, it may be unduly stringent to expect such operations to be assessed against the night-time criteria – especially if existing background noise levels are steadily rising in these early morning hours....As a rule of thumb it may be appropriate to assign a shoulder period rating background level as the mid-point value between the rating background levels of the two assessment periods that are on either side of the shoulder period.'*

The application of the above rule of thumb would result in noise goals within the relevant NCA being adjusted as shown within Table 16.

Table 16 – Noise level goals during shoulder periods

| Noise Catchment Area ID | Shoulder period criteria |                   |
|-------------------------|--------------------------|-------------------|
|                         | Evening (6pm - 7pm)      | Night (6am - 7am) |
| 1W                      | 45                       | 43                |
| 1E                      | 53                       | 49                |
| 2W                      | 45                       | 43                |
| 2E                      | 55                       | 52                |
| 3W                      | 52                       | 49                |
| 3E                      | 51                       | 49                |
| 4W                      | 51                       | 47                |
| 4E                      | 51                       | 47                |
| 5                       | 45                       | 41                |
| 6W                      | 42                       | 42                |
| 6E                      | 42                       | 42                |
| 7                       | 42                       | 42                |
| 8W                      | 51                       | 46                |
| 8E                      | 46                       | 44                |

As can be seen in the above table, this adjustment would have the effect of decreasing noise level goals in some NCAs. However, in the majority of NCAs the respective noise goal would increase. This would result in revised predicted exceedances as detailed within the following table.



Table 17 – Potential evening and night time exceedances (during shoulder periods) attributable to extended working hours

| NCA | Number of exceedances (during shoulder periods) |                         |        |                        |                        |                         |
|-----|---|-------------------------|--------|------------------------|------------------------|-------------------------|
|     | Evening   |                         |        | Night                  |                        |                         |
|     | Type 1  | Type 2                  | Type 3 | Type 1                 | Type 2                 | Type 3                  |
| 1E  | >10   | 9                       | 1      | >10                    | >10                    | 6                       |
| 1W  | >10   | 9                       | 7      | >10                    | >10                    | 8                       |
| 2E  | >10   | 4                       | Nil    | >10                    | 10                     | 3                       |
| 2W  | 4   | 2                       | 2      | 4                      | 4                      | 2                       |
| 3E  | >10   | 8                       | 4      | >10                    | >10                    | 5                       |
| 3W  | >10   | 8                       | 1      | >10                    | >10                    | 2                       |
| 4E  | 10  | 4                       | 2      | >10                    | 7                      | 3                       |
| 4W  | >10   | 6                       | 2      | >10                    | >10                    | 4                       |
| 5   | Most Bangalow receivers                         | Most Bangalow receivers | >10    | All Bangalow receivers | All Bangalow receivers | Most Bangalow receivers |
| 6E  | >10   | >10                     | 8      | >10                    | >10                    | 8                       |
| 6W  | >10   | 5                       | 2      | >10                    | 5                      | 2                       |
| 7   | >10   | >10                     | 6      | >10                    | >10                    | 6                       |
| 8E  | >10   | >10                     | 2      | >10                    | >10                    | 4                       |
| 8W  | 7   | 5                       | 1      | 9                      | 7                      | 5                       |

As shown within the above table, consideration of 'shoulder' periods would result in significantly fewer exceedances during the proposed extended construction hours in contrast to standard evening and night noise goals.

In relation to sleep disturbance impacts, Section 4.3 of the ICNG states that factors that may be important in assessing the extent of impact on sleep include how often high noise events occur at night, the predicted maximum noise levels at night, whether there are times when there is a clear change in the noise environment (such as during early morning shoulder periods), and the degree of maximum noise levels above the background noise level at night.

In assessing existing high noise level events within proximity to the Project, it has been noted that the UK Department for Environment, Food and Rural Affairs' Construction Noise Database has calculated a truck pass-by, such as those that would occur on the immediately adjacent existing Pacific Highway, to be equivalent to 114 dB(A). This noise level is just 6 dB(A) lower than the loudest predicted construction activity proposed to be undertaken during the proposed extended hours being earthworks cut at 120 dB(A) as detailed within Section 6.2.3 of the NVMSP.

In order to assist in the minimisation of potential high noise level impacts, Section 2.4 of this report details numerous activities with high noise generating characteristics that have been restricted within 300 metres of receivers that have lodged an objection to the proposal. This would act to reduce maximum noise levels associated with the proposal and subsequent potential sleep disturbance impacts. In addition, the Project would undertake additional consultation with these residents following commencement of the proposal to identify and manage any issues that may arise. As the proposed extended hours would also occur during shoulder periods, background maximum noise levels are also likely to be higher during these periods due to more frequent high noise level events such as heavy vehicle movements on the existing Pacific Highway. As such, it has been determined that sleep disturbance impacts associated with the proposal are likely to be minimal, and able to be managed in accordance with the mitigation measures detailed within Section 4.1.3 of this report.

While the extension of hours would increase the daily duration of noise and vibration impacts for up to approximately 18 months and the number of exceedances of the noise level goals detailed within the ICNG, this timeframe is considered short term in relation to the operational duration of the approved Project. It is anticipated that this increase has the potential to cause disruptions to community and other external stakeholder recreation, respite and other activities during extended hours. In particular, it can be noted that longer standard construction hours would result in more vehicle movements on local roads and the existing Pacific Highway with the highest impacts occurring in the earlier stages of the Project prior to full connectivity through the route being achieved. This would result in increased noise impacts for residents on those roads at those times. However, despite short term impacts, the proposed modification would allow for the faster completion of the Project, therefore minimising the longevity of impacts attributable to the construction of the Project.

It can also be noted, as detailed within Section 3 of this report that while the level of expected exceedances of noise goals would increase as a result of the proposed modification, the majority of affected communities, including affected receivers, are in support of the proposal. As such, the proposal would also be consistent with Section 2.8 of the ICNG.

In relation to vibration impacts, based on vibration modeling included within Appendix F of the Project NVIA, no exceedances of vibration criteria or sleep disturbance impacts are predicted to occur as the result of the subject proposal.

#### **4.1.3 Proposed mitigation measures**

Following the above assessment, it has been determined that a combination of restricting activities listed within Section 2.4 of this report and mitigation measures listed in the Project NVMSP are sufficient to address the potential noise and vibration impacts that may arise during the proposed extended hours through the implementation of a variety of existing mitigation measures including the following:

- Acoustic noise treatment has been implemented at receivers along the Project alignment to mitigate potential operational noise impacts of up to 55 dB(A). This acoustic treatment would also act to



mitigate construction impacts including impacts associated with the proposed extended construction hours.

- Project induction and targeted toolbox talks will include discussion of noise constraints and requirements and the procedure to follow for handling complaints received directly from the public.
- Operate and maintain equipment in accordance with manufacturer's specifications, including replacement of engine covers and repair of defective silencing equipment.
- Turn off equipment and diesel combustion engines (including delivery and disposal trucks) when not in use
- Where possible, locate fixed plant/construction equipment to reduce emission of noise to the surrounding area and where possible, locate in positions that allow other buildings and/or topography to provide the most acoustic shielding. Concurrent operation of noisy equipment will be avoided, as far as reasonable and feasible.
- Develop, review and implement a Noise and Vibration Reduction Initiatives Register for identifying and implementing construction noise minimisation initiatives on-site. As a minimum, every six months the Project team will re-evaluate construction methodology to assess the feasibility and reasonableness of using different staging approaches or quieter construction methods to reduce noise emissions on-site. Any initiatives identified as a result of this review will be included on the Noise Reduction Initiatives Register.
- Submit 6-monthly reports to RMS (and relevant State Regulatory Authorities when requested) outlining environmental performance and compliance with noise requirements, including requirements of the EPL.
- Appropriately manage impacts where routine, high-risk activity or complaint based noise and/or vibration monitoring indicates an exceedance of relevant goals.
- Routine construction noise and vibration monitoring to be undertaken at the following locations:
  - Macadamia Castle
  - Ewingsdale Community Hall and Church
  - Feros Village Bangalow
  - Brook Farm
  - Stone Fruit Farm (High Valley Orchard)
- Routine monitoring would be undertaken at representative locations to verify noise emissions from Type 1 and Type 2 activities associated with roadworks and bridgeworks.
- Additional monitoring would be undertaken at receivers in response to any complaints received.
- Install operational noise barriers as early as possible to provide ongoing screening from construction activities.
- Construction of the Ewingsdale earth mound is to continue to be undertaken as soon as practical so that further site construction noise impacting up on residents is minimised.
- Construction of the earth mound along Clover Hill Estate is to continue to be undertaken as soon as practical so that further site construction noise impacting up on the estate and Feros Village Bangalow is minimised. A temporary noise barrier has been constructed with consideration to Clause 4.29 of SWTC Appendix 4. In order to comply with Clause 4.29 of the SWTC Appendix 4, the barrier is:
  - 2.44m high.
  - Continuously extends from Chainage 23840 to 24300.
- Prior to construction adjacent to sensitive receivers or undertaking high-noise-risk activities, ensure residents potentially affected are informed of the scope of upcoming construction activities and provided with contact details of relevant Project staff.

- Regular consultation to be undertaken with the following landowners/sensitive receivers to ensure that operations of the site are not adversely affected by the construction works:
  - Macadamia Castle,
  - Ewingsdale Community Hall and Church,
  - Feros Village Bangalow,
  - Brook Farm; and
  - Stone Fruit Farm (High Valley Orchard).
- Noise and vibration from construction activities is to be less than the identified background noise levels within 100 metres of identified microbat roosting locations (October to March).
- A 1.8m temporary noise barrier/startle screen has been constructed along the alignment corridor to minimise line of sight and construction noise propagation to Macadamia Castle along with adjustments made to the park to move animals further away. In addition, the owner of this facility has registered support in relation to the proposal.
- Compound layouts and batching plant layouts have been developed to limit acoustic impacts on adjacent receivers.
- Activities that occur outside of standard construction hours (incorporating the proposed extended hours) must be subject to an approved out of hours works application or comply with the requirements of (the revised) MCoA 2.12 and/or MCoA 2.13.
- Trucks will be required to head south via Ross Lane interchange to go North, rather than drive through the high pedestrian zone of main street Bangalow.
- Temporary accommodation is to be provided when out of hours work procedures are anticipated to generate high noise impacts at sensitive receivers.
- Requests for out of hours approval will be made with justifications and evidence that all reasonable and feasible mitigation measures are being implemented.
- Noise monitoring would be undertaken of the subject extended hours works to verify that noise levels do not exceed those detailed within the NVMSPP and the modeling undertaken as part of this assessment. This monitoring would be in addition to the monitoring required under the Project NVMSPP and Monitoring Plan (MP). Appropriate adaptive management actions would be taken (in accordance with NVMSPP and this report) should an exceedance be identified in approved noise levels.
- An appropriately trained and qualified Boulderstone Pty Ltd environmental professional would be available during all Project operations incorporating the proposed extended hours to actively implement the provisions of the NVMSPP and investigate and assist with responding to any community complaints in relation to the subject works.
- The Project would consult further with directly affected residents to discuss potential noise and vibration mitigation measures where required.
- Works would be managed and monitored in accordance with the NVMSPP which would include extending vibration monitoring under the Project vibration monitoring procedure (PSP-ENV-NV-003) as per the requirements of Assessing Vibration: a technical guideline (DEC February 2006).

Complaints will be managed in accordance with the CCS which is consistent with AS 4269 Complaints Handling. It includes the following feedback mechanisms that have been established and are advertised on all public information materials, including Project contacts on the website:

- A 24/7 toll free number (1800 882 787) to receive complaints and enquiries about construction and operation activities.
- A reply paid postal address:  
Reply paid 85913



Pacific Highway upgrade – Tintenbar to Ewingsdale  
BANGALOW NSW 2479

- An email address at [communityinfo@t2e.com.au](mailto:communityinfo@t2e.com.au)
- Local residents would be kept up to date with the construction program and activities scheduled in their area (including activities associated with the proposed extended hours). This would include ongoing consultation with the following identified sensitive receivers:
  - Macadamia Castle – incorporating the petting zoo:
    - Regular consultation would be undertaken with Macadamia Castle to ensure that operations of the site and in particular the petting zoo are not adversely affected by the construction works.
  - Ewingsdale Community Hall and Church:
    - Regular consultation would be undertaken with Ewingsdale Community Hall and Church to make sure activities scheduled at the site would not be adversely affected by construction works noise. It can be noted the Project recently worked closely with the Ewingsdale Community Church and Hall to mitigate noise and traffic impacts during a sensitive event being held at the hall. As a result, both the family that hired the hall and hall's community representative sent positive feedback regarding their experience working with the contractors. The family commended the "professionalism, kindness and show of community spirit" from the contractors while the hall's representative noted "you can't buy goodwill, you just earn it like that."
  - Feros Village Bangalow:
    - Regular consultation would be undertaken with representatives of residents of Feros Village Bangalow to make sure construction works do not present significant impacts upon these receivers.
  - Brook Farm:
    - Regular consultation would be undertaken with Brook Farm to make sure activities scheduled at the farm (including site inspections and visits) would not be adversely affected by construction noise and vibration.
  - High Valley Orchard:
    - Regular consultation would be undertaken with the High Valley Orchard to make sure activities scheduled at the farm would not be adversely affected by construction noise and vibration.
- Monitoring would be undertaken at the nearest sensitive receiver or at representative locations to verify noise emissions from Type 1 and Type 2 activities associated with bridgeworks.
- Residents would be notified when pile trimming is to be undertaken so that they are aware of the potential noise impacts and duration of the work.
- In accordance with the Project EPL any work generating high noise and vibration impacts would only be undertaken:
  - Between the hours of 8:00am and 6:00pm Monday to Friday;
  - Between the hours of 8:00am and 1:00pm Saturday; and
  - In continuous blocks of no more than 3 hours, with at least a 1 hour respite between each block of work generating high noise impact, where the location of the work is likely to impact the same receivers; except as expressly permitted by another condition of the EPL.
- Should exceedances be identified through noise monitoring undertaken as detailed above that may be attributable to the extended operating hours, existing mitigation measures would be reviewed and new measures developed and implemented to ensure that required noise levels are achieved.

## 4.2 Air Quality

### 4.2.1 Existing environment

Potential air quality issues associated with the Project have been assessed within Section 19 of the EA.

The EA found that all measured levels of pollutants (with baseline data taken from Coffs Harbour as the most relevant data source) are likely to be below their respective air quality goals. These measured values include emissions from the traffic on the Pacific Highway which will be the major contributor to carbon monoxide and nitrogen dioxide. Particulate matter will have contributions from other sources.

The EA found that dust would be generated from earthworks associated with the Project. The total amount of dust would depend on the silt and moisture content in the soil and the types of activities being carried out.

The major sources of dust identified by the EA were bulldozers, excavators and wind erosion from exposed surfaces. It can be noted that these activities are proposed to be undertaken during the course of the proposed extended hours.

### 4.2.2 Potential impacts

All approved Project activities are proposed to be undertaken during the subject extended hours incorporating the restrictions as detailed within Section 2 of this report. As such, it would be anticipated that air quality impacts for activities undertaken during the extended hours would be similar to those experienced during approved construction hours. Although there may be a minor increase in short term cumulative dust levels as a result of additional hours of construction associated with the Project, these impacts would be counteracted by the decreased duration of these activities due to the Project being able to be completed earlier. While this short term increase would be unlikely to significantly contribute to exceedance of Project dust goals as prescribed by the Project AQMSP they may create some short term nuisance to identified sensitive receivers. Dust sensitive receivers identified within the approved Project AQMSP include:

- A specialist stone fruit farm (High Valley Orchard),
- Brook Farm,
- Newrybar Primary School,
- The Bangalow community,
- The Ewingsdale community; and
- The Newrybar community.

### 4.2.3 Proposed mitigation measures

The AQMSP, developed as part of the CEMP addresses the air quality impacts that would arise during the construction activities for the Project. Mitigation measures to manage air quality impacts are detailed within Section 3 of the AQMSP. Following the above assessment it has been determined that these mitigation measures would be sufficient in relation to the management of potential impacts associated with the proposed extended hours. These mitigation measures include the following:

- Consult and notify local residents of planned activities prior to commencement of activities, particularly for major earthworks.
- Continue to implement an EWMS for dust generating activities clearly stating all environmental requirements for that site, and including relevant environmental management and mitigation measures.
- Stabilise and revegetate or otherwise protect exposed areas as soon as practicable after construction to prevent or minimise wind-blown dust.
- Dampen stockpiles, work areas, exposed soils and haul roads using water carts, water sprays and sprinklers to minimise dust generation. Where necessary, chemical dust suppressants will also be utilised. Use other means of minimising dust in areas that are inaccessible to water carts such as



cover area with mulch, hydromulch, tackifiers, covers etc.

- Manage stockpiles to minimise potential for dust generation.
- Remove silt from behind sediment fences and other erosion control structures on a regular basis (as required).
- Check weather forecast to obtain indication as to whether high risk conditions for dust generation are likely. Plan work activities to minimise dust emissions. Cease dust generating activities if visible dust plumes are migrating off site and when dust suppression measures are ineffective. Do not recommence until effective mitigation measures are in place to control the dust.
- Cover loads at all times on public roads and in construction areas where there is a risk of release of material or dust.
- Prevent or minimise tracking of material onto public roads to minimise dust generation potential.
- Limit speed on unsealed roads and haul roads.
- Remove any tracked material from roadways as soon as practically possible to minimise potential for dust generation from tracked material.
- Service and maintain construction plant, vehicles and equipment regularly in accordance with manufacturer's specifications.
- Undertake visual inspections of plant daily to ensure that visible smoke emissions do not last longer than 10 seconds.
- Do not leave vehicles, plant or machinery idling where unnecessary.
- Use low emission fuels wherever reasonable and practicable. Select equipment and techniques that reduce emissions and incorporate dust suppression measures.
- Optimise transport arrangements on site for construction vehicles to reduce distances and excessive movement of empty plant/vehicles.
- An appropriately trained and qualified Boulderstone Pty Ltd environmental professional would be available during all Project operations incorporating the proposed extended hours (including weekends) to visually monitor dust emission from Project activities. Any identified excessive dust emission would be managed in accordance with the Project AQMSP.
- Should exceedances be identified through dust monitoring undertaken as part of the AQMSP that may be attributable to the extended operating hours, existing mitigation measures would be reviewed and new measures developed and implemented to ensure that required air quality parameters are achieved.
- The Project would consult further with directly affected residents to discuss potential dust mitigation measures where required.

## **4.3 Social and Economic Impacts**

### **4.3.1 Existing environment**

Social and economic considerations in relation to the approved Project are discussed within Section 17 of the Project EA. In this regard, the EA assessed the following matters:

- Local community socio-economic impacts associated with land use, property and amenity related changes.
- Business (including agricultural producers) impacts on a case by case basis including impacts to the overall viability, profitability, productivity and sustainability of businesses.
- Regional economic impacts to the agricultural sector taking into account the total loss of regional and State Significant farmland as identified in the Northern Rivers Farmland Protection Project (DIPNR, February 2005).
- Regional economic impacts to the tourism sector taking into account agri-tourism impacts and

impacts to local amenity, character and scenery.

The EA found that impacts of the upgrade on the viability, profitability, productivity and sustainability of directly affected non-agricultural businesses would reflect the change in the physical operating environment (accessibility, visibility and operating amenity) and disruption of patronage (be it from through traffic on the existing highway, local patronage or whether the town or village is a 'destination' in its own right). Furthermore, those impacts would vary between the short term (during construction and adjustment within the local community) and the long term (as accessibility, visibility and operating amenity impacts become fully embedded).

The types of Project impacts on local non-agricultural businesses include:

- Accessibility,
- Visibility; and
- Operating amenity.

The agricultural sector is subject to negative impacts arising from foregone production on land resumed or isolated by the proposed upgrade. Regional economic impacts to the agricultural sector, taking into account the total loss of regional and state significant farmland is also discussed within Section 17 of the EA.

#### **4.3.2 Potential impacts**

It is recognised that some short term disruption to local residents and businesses as a result of the proposed modification may be experienced due to the extension of the duration of daily construction activities. These impacts may include noise disruption to the social activities of nearby residents. This potential impact could be addressed through the implementation of the management plans and CSMREWH detailed within Section 4.3.3 below. It can also be noted that the overall duration of these impacts with the implementation of the proposed modification would be minimised due to a shorter overall Project duration.

In addition to the above, it can be noted that socio-economic impacts have the potential to arise from dust generated on site impacting upon nearby macadamia farms, particularly during the flowering season. These impacts could occur due to the dust causing a reduction in yield, therefore reducing the profitability of these operations. However, it can be noted that the mitigation measures contained within Section 4.2 of this report and the Project EPL would be implemented to manage dust impacts and subsequently minimise any impacts upon these operations.

Positive social and economic impacts of the subject proposal would include a prolonged boost to retail trade adjacent to the Project alignment on Saturdays through increased patronage resulting from an increase in meal breaks where Project personnel would utilise retail services available within the villages of Banaglow, Newrybar and Knockrow. This increase would occur through personnel undertaking a nine hour shift rather than a five hour shift within the local community. The result of this 'full day's work' would be that personnel would be more likely to utilise weekend retail services during the extended working hours within the locality, as these hours are the primary period for Saturday trading. It can also be noted that an nine hour shift would require two meal breaks where personnel would be likely to purchase from local retailers, rather than a five hour day that requires only one meal break.

As detailed above, in relation to the potential impact of the proposed extension of hours on Project personnel, increased working hours have the potential to negatively affect work life balance and result in worker fatigue. It can be noted that works would not always be undertaken during the proposed extended hours. For example, during winter months works would be suspended well before 7pm on weekdays due to decreased daylight availability. Additionally, a number of productive work activities would also be suspended during inclement weather.

#### **4.3.3 Proposed mitigation measures**

Following the above assessment, it has been determined that the implementation of the provisions of the Project CEMP and associated sub-plans are considered sufficient to ensure that potential social and economic impacts of the subject proposal are minimised. In addition to this implementation of these



management plans, the CSMREWH included as Appendix 1 to this assessment would be implemented to provide further management of potential social and economic impacts. The implementation of this strategy would keep both local businesses and residents informed of the undertaking of the subject works and therefore act to ensure open dialogue is achieved to address any social or economic impacts of the proposed modification as they may arise. The implementation of the CSMREWH would include negotiation of respite periods from high impact works with directly affected stakeholders. In addition to the above, BPL would contact all residents identified during the consultation period as wanting to be informed about DP&I's decision regarding the proposed modification.

Management of impacts on Project personnel involved in extended hours would occur through the implementation of the existing Project Readiness for Work Guideline (PLAN-SF-006). This guideline provides team members, contractors, subcontractors and sub-consultants with a clear understanding of the Project's Readiness for Work procedures in terms of education, responsibility, compliance and consequences for working outside the procedures identified in the document. Team member obligations include presenting themselves for work, and then carrying out that work in a manner that does not compromise their own health and well-being or that of their workmates and the general public. The implementation of the guideline in relation to the proposed extended hours would:

- Assist the Project in fulfilling its Workplace Health and Safety obligations and duty of care regarding the health, safety and welfare of personnel,
- Promote awareness of fatigue management; and
- Provide guidelines to those who work in a supervisory role in relation to managing fatigue.

Specific fatigue control measures that would be implemented in accordance with this guideline would include:

- Effective safety risk analysis during pre-starts for each activity,
- Clear pre-start briefings and assignment of duties prior to the commencement of shifts,
- Fatigue assessment of personnel prior to commencement of and during works,
- Effective management of shift allocation,
- Effective management of resource requirements,
- Ensuring regular meal breaks; and
- Encouraging the use of annual leave and RDOs (where applicable).

Any fatigue related incidents that may occur as a result of the extended hours would be reported to senior Project managers and the Project Safety Committee for discussion to facilitate prevention of future incidents.

Should existing mitigation measures be identified as not being effective, the measures would be reviewed and new measures developed and implemented to ensure social and economic impacts are appropriately managed.

## **4.4 Traffic**

### **4.4.1 Existing environment**

Section 13.3.1 of the Project EA found that the Pacific Highway to the north of Bangalow carries higher traffic volumes than to the south, with higher volumes again to the north of Ewingsdale Road. Ewingsdale Road itself carries almost as much traffic as the highway south of the Ewingsdale interchange. It also experiences considerable congestion approaching the Byron Bay town centre during peak periods.

Bangalow Road to the west of the Pacific Highway (to and from Lismore) also carries significant traffic volumes. This traffic accesses and departs the highway through Granuaille Road, with around 75 per cent of vehicles travelling to and from the north on the highway. This accounts for the differences in traffic volumes to the north and south of Bangalow. In 2004 there was a difference of around 6000 axle pairs between the RTA count stations at Knockrow and south of the Ewingsdale interchange.



#### 4.4.2 Potential impacts

The EA for the Project found that much of the proposed upgrade would be able to be constructed with minimal disruption to existing highway traffic.

Notwithstanding, as previously stated, it can be noted that longer construction hours would result in more vehicle movements on local roads and the existing Pacific Highway. This would result in increased noise impacts for residents on those roads at those times. However, as the Project has progressed and a high degree of connectivity has been established along the Project alignment, the highest potential impacts that would occur in the earlier stages of the Project prior to full connectivity being achieved would be avoided.

While some increase in traffic impacts attributable to construction activities may be experienced between the Ewingsdale Interchange and Bangalow during the proposed extended hours, this increase would not cause noticeable delays partly due to Project vehicles utilising the Project alignment to commute between various sections of the Project, particularly during the later stages of the Project. Additionally, the existing highway would be capable of accommodating the minor increase in traffic within this area as it does during standard construction hours.

It can be noted that works around the Ewingsdale Interchange could exacerbate traffic congestion on Ewingsdale Road. However, it can be noted that the proposed extension would not occur within the section of Ewingsdale Road closest to the Byron Bay town centre where the EA found the majority of congestion on this road to occur. Therefore it is considered that any impact to traffic within the vicinity of the Ewingsdale Interchange during the proposed extension of hours would be minor and manageable.

The Pacific Highway south of Bangalow would be unlikely to be substantially impacted upon by the proposed extension of hours as this section experiences the least amount of traffic on the existing Tintenbar to Ewingsdale Section of the Pacific Highway. This section has also had several required traffic control measures implemented to manage traffic within this section of the highway including closure of one lane in both north and south bound directions of the Bangalow Bypass.

It is recognised that some minor conflict may exist between Project vehicles travelling through the village of Bangalow and high tourism related traffic and pedestrian activity within this area, particularly during weekends. It is also recognised that Project personnel accessing shops and services within the village may increase demand on parking spaces. Notwithstanding, it is not expected that the proposed extension of hours would substantially negatively impact upon tourism related traffic, pedestrian activity or significantly diminish parking spaces within the village.

Overall, it is expected that the proposed modification would have positive effects on traffic conditions for residents as well as commuters following minor and localised negative impacts being experienced for up to approximately 18 months during the construction phase of the approved Project. These benefits would apply to both local and regional traffic on the Pacific Highway and would be attributable to the completion of the highway being realised sooner than is currently forecast under the existing Project schedule.

#### 4.4.3 Proposed mitigation measures

Following the above assessment it has been determined that the Project Construction Traffic Management and Safety Plan (CTMSP), included as Appendix 9 to the CEMP is sufficient to manage potential traffic impacts associated with the proposed extension of hours.

Measures detailed within the CTMSP would be implemented in relation to the proposed extended hours. The following existing Project directives would also continue to be implemented:

- Project personnel are instructed to adopt a 40 km/h speed limit through the Bangalow urban area to minimise any negative interaction between this high pedestrian and tourist area and construction traffic; and
- Project personnel are instructed to park vehicles outside of the Bangalow village centre (main street) and to walk to shops and services within the village to minimise the use of parking spaces within the main street.



Should existing mitigation measures be identified as not being effective, the measures would be reviewed and new measures developed and implemented to ensure traffic impacts are appropriately managed.

## **4.5 Cumulative Impacts**

### **4.5.1 Potential impacts**

The most significant potential cumulative impact of the subject proposal would be the exacerbation of environmental and community impacts already experienced as the result of standard construction activities, as these activities would be undertaken over a longer period per week. Notwithstanding short term impacts, the proposed modification would allow for the faster completion of the Project, therefore reducing the longevity of those impacts.

In addition to the above, it can be noted that an extension to standard construction hours would have a cumulative impact when combined with any future out of hours works that may be undertaken in accordance with the NVMSPP and the EPL.

### **4.5.2 Proposed mitigation measures**

The approved Project CEMP and associated sub-plans would be implemented in order to manage the potential impacts associated with the proposed extension to working hours. Additionally, the mitigation measures detailed within Section 4 of this report would act to mitigate any potential impacts that may not be sufficiently manageable under the Project CEMP and associated sub-plans.

Where extended construction hours would be combined with out of hours activities undertaken under the Project NVMSPP, mitigation measures in addition to those detailed within this report would be implemented to ensure that cumulative impacts are minimised. These mitigation measures would be developed and implemented on a case-by-case basis in response to the scope and potential impacts of such works and also would be undertaken in consultation/agreement with the affected resident.

## 5 CONCLUSION

The delivery of the Pacific Highway Upgrade - Tintenbar to Ewingsdale is anticipated to result in the following beneficial outcomes:

- A safer section of highway.
- Greater transport efficiency and safety for intra-state and inter-state movements.
- Supporting growth and the long-term sustainability of the regional economy.
- Improved access and connectivity for the local community.
- Improved amenity along the existing Pacific Highway.
- Reducing financial costs associated with travel on the Pacific Highway.
- Reducing greenhouse gas emissions in the longer term and energy consumption relative to the base case of 'no upgrade'.

The above benefits would ensure that the operational integrity of the subject section of the Pacific Highway can be maintained.

To ensure that the above outcomes could be experienced approximately 4.2 months sooner than would otherwise be achieved, this report seeks to modify the current approved construction hours for the Project as detailed in MCoA 2.12, as follows (proposed modification is shown in *italics*):

Construction activities associated with the project shall only be undertaken during the following hours:

- (a) ~~7:00am to 6:00pm~~ *6:30am to 7:00pm*, Mondays to Fridays, inclusive;
- (b) ~~8:00am to 1:00pm~~ *7:00am to 4:00pm* on Saturdays; and
- (c) at no time on Sundays or public holidays.

~~Notwithstanding the above, construction activities are permitted between the hours of 7:00am and 4:00pm on Saturdays between chainages 134810 and 136000, and including the operation of the Cumbalum and Ross Lane ancillary facilities for Stage 1.~~

This condition does not apply to:

- (i) Any works that do not cause construction noise to be audible at any sensitive receiver; or
- (ii) For delivery of materials required outside these hours by the police or other authorities for safety reasons; or
- (iii) Where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm.

It can also be noted that the above proposal would also result in the following benefits in relation to the faster delivery of the Project:

- Ensure full advantage is taken of available potential construction hours.
- Provide greater value for State and Federal government funding.
- Ensure Project timing milestones are achieved.
- Reduce the duration of construction impacts.
- Offset Project delays caused by wet weather.

Inclement weather and its effects has contributed significantly to slow Project progression since the commencement of substantial construction. Inclement weather has resulted in a total of 117.5 lost days being recorded on the Project to mid-August 2013. This equates to approximately 57 per cent lost time. This slow progression has the potential to jeopardise the achievement of Project milestones. As expected wet weather between now and the end of the Project could be anywhere from a further 92 to 120 days there is a real need for as much productive work as possible to be undertaken on available/fine days.



Consultation with the local community is recognised as the key to ensure the proposal to extend construction hours is cognisant of community issues and identifies potential mitigation strategies. As such, the CSMREWH has been prepared and implemented in relation to the proposed modification.

From the consultation undertaken in relation to this proposal in accordance with CSMREWH, the majority (98.11 per cent) of respondents to the proposal have no objection. In relation to objections received, these issues have been assessed in the development of this report. This assessment has found that the implementation of the measures contained within the approved CEMP and sub-plans could be implemented to effectively manage the potential minor impacts associated with the proposal as detailed within Section 4 of this report.

This report has assessed the potential environmental and community impacts associated with the subject proposal. It can be noted that the proposed works would involve approved Project activities that would take place within the approved Project alignment although certain activities with the highest potential to disrupt the lives of residents would not be undertaken during the proposed extended hours. This assessment found that there would be no significant negative environmental or community impacts as a result of the subject proposal. However, the proposed modification to working hours would result in numerous significant positive impacts as detailed within this report.

In relation to the potential minor negative environmental or community impacts, this assessment has found that these impacts are able to be managed in accordance with the approved Project CEMP and associated sub-plans.

## 6 REFERENCES

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UK Department for Environment, Food and Rural Affairs, Construction Noise Database.

## **Appendix 1 – Consultation reports**



# Communications strategy for modification request for an extension to working hours

## Pacific Highway upgrade Tintenbar to Ewingsdale

Client: Roads & Maritime Services

Document Number: PLAN-CI-003

|       |         |   |
|-------|---------|---|
|       |         |   |
| 1     | 17-6-13 | Communications strategy revised to incorporate RMS feedback about additional stakeholder and traffic mitigation |
| 0     | 7-6-13  | Communications strategy submitted to RMS for approval   |
| Rev # | Date    | Description of change   |

|           |   |  |     |
|-----------|---|--|-----|
| APPROVALS | Prepared by: Susan Scott<br>Community Relations Manager |  | / / |
|           | Approved by: Vince NEWTON<br>Project Director           |  | / / |

# Communications strategy for extended construction hours

Pacific Highway Upgrade – Tintenbar to Ewingsdale



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# Communications strategy for extended construction hours

Pacific Highway Upgrade – Tintenbar to Ewingsdale



## 1. OVERVIEW

Roads and Maritime Services (RMS) has awarded a contract to Boulderstone Pty Ltd (Boulderstone) to design and construct the Pacific Highway upgrade — Tintenbar to Ewingsdale. This project is jointly funded by the NSW State and Federal Governments.

The upgrade will provide about 17 kilometres of dual carriageway, starting at the northern end of the Ballina bypass at Ross Lane, extending to the Ewingsdale interchange.

It is proposed to extend construction hours so that working hours can be maximised during both the dry season and daylight hours and night works can be kept to a minimum.

This communications strategy provides a framework for community consultation about the proposal to modify the approved construction hours. The community will be surveyed to gauge the level of support for the proposal and will also be invited to identify potential issues. Feedback will be collated in a written consultation report and will be used to develop targeted mitigation strategies.

## 2. PURPOSE OF THIS PLAN

This plan outlines the communications strategy, tactics and tools that will underpin consultation with the community about the proposal to extend the approved construction hours.

The strategy is designed to facilitate informing affected and adjacent residents, stakeholders and local communities about the need to extend construction hours, including the potential benefits and impacts, and inviting feedback on the proposal.

Based on the feedback received, the project team will consult with directly affected residents and/or local communities to develop additional tailored mitigation strategies, as required.

### 2.1 COMMUNICATION OBJECTIVES

The following communication objectives will underpin community consultation:

- Develop a strategic communications plan to support proactive community consultation about the proposal to extend construction hours.
- Engage effectively with the community to obtain feedback about the proposal.
- Identify potential issues associated with extended construction hours and use community feedback to inform the development of tailored mitigation strategies.

## 3. PROPOSAL TO EXTEND CONSTRUCTION HOURS

Current approved construction hours

Under the Minister's Conditions of Approval for the project (10 January 2010), the following standard construction hours are currently approved:

- 7am to 6pm Monday to Friday
- 8am to 1pm on Saturday.

# Communications strategy for extended construction hours

Pacific Highway Upgrade – Tintenbar to Ewingsdale



- No works on Sundays or public holidays.

What is proposed?

The project team is proposing to seek approval from Department of Planning and Infrastructure (DP&I) to extend standard construction hours to:

- 6.30am to 7pm Monday to Friday
- 7am to 4pm on Saturday
- No works on Sundays or public holidays
- Not seeking an extension to controlled blasting hours (recently approved increase remains)

Need to extend work hours

The project team is considering making a request to modify the approved construction hours for the project from the Department of Planning and Infrastructure (DP&I). Extending construction hours will assist in delivering the upgrade as soon as possible and to provide a safer section of highway. We are seeking the community's feedback on this proposal.

Feedback will be used to gauge the level of community support for the proposal, and identify potential community issues on the proposal. A report on the feedback will be incorporated into the proposal for submission to DP&I.

What are the potential benefits of extending construction hours?

If standard construction hours are extended, residents could potentially benefit by:

- Increased project efficiencies resulting in reduced overall duration of construction impacts to residents and road users.
- Maximising working hours during the dry periods of weather.
- Utilising extended natural light at certain times of the year (summer).
- A potential offset for weather disruptions to construction work.

What are the potential impacts of extending construction hours?

If standard construction hours are extended, residents could potentially be affected by:

- Possible construction noise, dust and vibration impacts.
- Potential minor delays for road users, subject to traffic management.

Mitigation measures

Mitigation measures will continue to be implemented during the proposed extended hours, including:

- Scheduling noisy works at less sensitive time periods.
- Limiting reversing to minimise beepers during extended hours.
- Shielding lights to ensure they are not pointing towards residences.
- Sound baffling and shielding of the worksite and equipment where possible.



# Communications strategy for extended construction hours

Pacific Highway Upgrade – Tintenbar to Ewingsdale



- Construction noise and vibration levels will be monitored in accordance with the Noise and Vibration Management Plan.
- Ongoing dust monitoring will continue.
- Ongoing traffic management, including Vehicle Management Plans for specific activities to minimise additional construction traffic.

If the extension to construction hours is approved, the project team would consult further with directly affected residents to discuss potential mitigation measures.

## 4. COMMUNITY CONSULTATION

Consultation with the local community is recognised as the lynch pin to ensure the proposal to extend the construction hours is cognisant of community issues and identifies potential mitigation strategies.

Effective consultation will also provide an opportunity to inform the community about the proposal and engage affected residents and stakeholders in developing collaborative solutions that will minimise the impacts.

### 4.1 CONSULTATION PROGRAM

The community consultation program reflects the IAP2 model of engagement and will be delivered in three phases, as outlined below:

#### Phase 1: Inform and consult

A notification about the proposal to extend construction hours will be delivered by Australia Post to 2,351 potentially affected households and businesses across the project footprint, including delivery to street roadside, PO boxes and counter services (see Letter to householder at Appendix 1). The mailout details are summarised below:

| Postcode     | Locality Name | Total Count  |
|--------------|---------------|--------------|
| 2481         | EWINGSDALE    | 247          |
| 2481         | MYOCUM        | 186          |
| 2481         | TALOFA        | 16           |
| 2479         | BANGALOW      | 1075         |
| 2479         | BROOKLET      | 94           |
| 2479         | COOPERS SHOOT | 112          |
| 2479         | KNOCKROW      | 68           |
| 2479         | MCLEODS SHOOT | 20           |
| 2479         | NEWRYBAR      | 203          |
| 2479         | POSSUM CREEK  | 80           |
| 2478         | TINTENBAR     | 250          |
| <b>Total</b> |               | <b>2,351</b> |

# Communications strategy for extended construction hours

Pacific Highway Upgrade – Tintenbar to Ewingsdale



The notification will include a separate feedback form (with reply paid envelope) designed to survey the level of community support for the proposal and to identify issues (see feedback form at Appendix 2) and potential mitigation strategies.

The following sensitive receivers will be contacted by phone at the time of the mailout to arrange a briefing about the proposal:

- Macadamia Castle
- Ewingsdale community hall and church
- Feros Village, Bangalow
- BrookFarm
- High Valley stone fruit orchard
- Newrybar Public School
- Bangalow Chamber of Commerce

The proposal will also be discussed at a community information session and printed copies of the notification and feedback form will be available at the session.

The invitation to provide feedback will be promoted as widely as possible, including:

- media release
- newsflash on the project website with a link to the proposal and feedback form
- E-alert to the project database.

## Phase 2: Involve

Feedback will be analysed to determine the level of community support for the proposal to extend construction hours. Issues raised will be collated and used to inform the decision-making process and the development of mitigation strategies.

A written consultation report will be incorporated into the proposal for consideration by Department of Planning and Infrastructure.

## Phase 3: Collaborate

The project team will collaborate with directly affected residents and key stakeholders, including sensitive receivers, to address specific concerns and to develop innovative and tailored solutions, as required e.g. meetings and briefings with key stakeholders and sensitive receivers.

Community advice and recommendations will be incorporated into the decision-making process, to the maximum extent possible.

The community will be informed about the outcome of the submission to Department of Planning and Infrastructure via public advertisement (DP&I), project website, community information session and notifications to directly affected residents, as required.

Additional notifications will be developed and distributed to directly affected residents to communicate local arrangements and tailored mitigation strategies for extended construction hours, as required.



# Communications strategy for extended construction hours

Pacific Highway Upgrade – Tintenbar to Ewingsdale



## 5. COMMUNICATION TOOLS

The following communication tools will be used to support preliminary and ongoing consultation with residents. Information will also be distributed at community information sessions and will be available on the project website.

| Communication tool  | Directly affected residents | General public/local communities |
|---|-----------------------------|----------------------------------|
| Letter of notification about proposal                               | ✓                           | ✓                                |
| Feedback form   | ✓                           | ✓                                |
| Targeted consultation with key resident and stakeholders            | ✓                           |                                  |
| Advertisement about extended hours consultation (local print media) |                             | ✓                                |
| Media release about extended hours consultation (regional media)    |                             | ✓                                |
| Community information sessions                                      |                             | ✓                                |
| Community display centre  |                             | ✓                                |
| Construction activity advertisements                                |                             | ✓                                |
| Progress update advertisements                                      |                             | ✓                                |
| Website updates   | ✓                           | ✓                                |
| Project information line (toll free 1800 882 787)                   | ✓                           | ✓                                |
| Project email communityinfo@t2e.com.au                              | ✓                           | ✓                                |
| E-alert to database to inform and invite feedback                   | ✓                           |                                  |

# Communications strategy for extended construction hours

Pacific Highway Upgrade – Tintenbar to Ewingsdale



| Communication tool    | Directly affected residents | General public/local communities |
|-----------------------|-----------------------------|----------------------------------|
| VMS and other signage | ✓                           | ✓                                |

## 6. KEY MESSAGES

The following key messages were used consistently throughout the consultation delivery to ensure clear and simple messaging about the proposal, its potential impacts and its benefits.

M1 The project team is considering seeking approval by Department of Planning and Infrastructure (DP&I) to modify the standard construction hours for the project.

- Current approved work hours are Monday to Friday 7am to 6pm and Saturday 8am to 1pm.
- The proposed extended work hours for the duration of the project would be Monday to Friday 6.30am to 7pm and Saturday 7am to 4pm.

M2 The project team is seeking community feedback about the proposal to extend construction hours.

- Feedback will be used to gauge the level of community support for the proposal and identify potential community issues on the proposal.
- A report on the feedback will be incorporated into the proposal for submission to DP&I.

M3 The potential impacts of extended construction hours on residents and other stakeholders include:

- Possible construction noise, dust and vibration impacts.
- Potential minor delays for road users, subject to traffic management.

M4 The benefits of extended construction hours for stakeholders would include:

- Increased project efficiencies resulting in reduced overall duration of construction impacts to residents and road users.
- Maximising working hours during the dry periods of weather.
- Utilising extended natural light at certain times of the year (summer).
- A potential offset for weather disruptions to construction work.

M5 If the extension to construction hours is approved, the project team would consult further with stakeholders who have previously expressed objections to the extended hours proposal to discuss potential mitigation measures, including:

- Scheduling noisy works at less sensitive time periods.
- Limiting reversing to minimise beepers during extended hours.
- Shielding lights to ensure they are not pointing towards residences.
- Sound baffling and shielding of the worksite and equipment where possible.
- Construction noise and vibration levels will be monitored in accordance with the Noise and Vibration Management Plan.
- Ongoing dust monitoring will continue.



# Communications strategy for extended construction hours

Pacific Highway Upgrade – Tintenbar to Ewingsdale



- Respite periods from high impact works as negotiated with directly affected stakeholders.
- Provision of alternative accommodation where all other mitigation options have been exhausted.

M6 We will continue to consult with the community to keep you informed.

## 7. COMMUNICATION CALENDAR

| Date/Timing                                 | Activity  | Responsibility | Stakeholder  |
|---|---|----------------|--|
| Week commencing 17/06/2013                  | Targeted consultation to coincide with mailout.   | BPL            | Sensitive receivers  |
| Week commencing 17/06/2013                  | Letter of notification and feedback form sent to households, PO Boxes and counter services via Australia Post and database.                             | BPL            | Potentially affected residents across project alignment (total 2351) |
| 25/06/2013                                  | Proposal presented at community information session.  | BPL/RMS        | General public   |
| 01/07/2013                                  | Feedback closes COB.  |                |  |
| 08/07/2013                                  | Consultation report summarising feedback, including issues.   | BPL            | RMS/DP&I   |
| Week commencing XX (TBA — pending approval) | Notification to directly affected residents via LBX and mass email to project database to advise extended working hours one week prior to commencement. | BPL            | Project database   |

# **Communications strategy for extended construction hours**

Pacific Highway Upgrade – Tintenbar to Ewingsdale



## **Appendix 1 — Letter to householder**



# To the householder



Transport  
Roads & Maritime  
Services

JUNE 2013

## PROPOSAL TO EXTEND WORKING HOURS

Dear Resident/Community member

### Re: Pacific Highway upgrade — Tintenbar to Ewingsdale proposal to extend construction hours

Roads and Maritime Services (RMS) has awarded a contract to Boulderstone Pty Ltd (Boulderstone) to design and construct the Pacific Highway upgrade — Tintenbar to Ewingsdale. This project is jointly funded by the NSW State and Federal governments.

The upgrade will provide about 17 kilometres of dual carriageway, starting at the northern end of the Ballina bypass at Ross Lane, extending to the Ewingsdale interchange.

### What's happening?

The project team is considering approaching the Department of Planning and Infrastructure (DP&I) for an extension to the project's approved construction hours

Extending construction hours will help deliver the upgrade as soon as possible, providing a safer section of highway. We are seeking community comment on this proposal.

Feedback will be used to gauge the level of community support for the proposal, and identify potential issues. A report on the feedback will be incorporated into the proposal for submission to DP&I.

The current approved construction hours are:

- 7am to 6pm Monday to Friday
- 8am to 1pm on Saturday.
- No work on Sundays or public holidays

### What is proposed?

The proposed extended construction hours would be:

- 6.30am to 7pm Monday to Friday
- 7am to 4pm on Saturday
- No work on Sundays or public holidays

The project team is not proposing to increase working hours for controlled blasting.

### What are the potential benefits of extending construction hours?

If standard construction hours are extended, residents and road users could potentially benefit by:

- Increased project efficiencies resulting in reduced overall duration of construction impacts.

Roads and Maritime Services

Pacific Highway upgrade – Tintenbar to Ewingsdale  
Reply Paid 85913, PO Box 604  
BANGALOW NSW 2479

[www.rms.nsw.gov.au/pacific](http://www.rms.nsw.gov.au/pacific) | T 1800 882 787

This project is funded by the NSW State and Federal Governments.



Transport  
Roads & Maritime  
Services



- Maximising working hours during dry weather.
- Utilising extended natural light at certain times of the year (summer).
- A potential offset for weather disruptions to construction work.

#### **What are the potential impacts of extending construction hours?**

If standard construction hours are extended, residents and road users could potentially be affected by:

- Possible construction noise, dust and vibration impacts.
- Potential minor delays, subject to traffic management.

#### **Mitigation measures**

Mitigation measures will continue to be implemented during the proposed extended hours, including:

- Scheduling noisy works at less sensitive times.
- Limiting reversing to minimise beepers during extended hours.
- Shielding lights to ensure they are not pointing towards residences.
- Sound baffling and shielding of the worksite and equipment where possible.
- Monitoring construction noise and vibration levels.
- Ongoing dust monitoring.

If the extension to construction hours is approved, the project team would consult further with directly affected residents to discuss potential mitigation measures.

#### **Feedback form (see overleaf)**

We are seeking your feedback about the proposal to extend construction hours, as outlined above. We are also seeking your assistance to identify potential local issues associated with extending construction hours and invite your suggestion for mitigation strategies and/or innovative solutions.

Please complete the feedback form included with this letter to advise the project team if you object/do not object to this proposal and return the form in the reply paid envelope, also provided, by **Monday 1 July 2013**.

If you require more information or have any queries, comments, or complaints, please contact the community relations team on **1800 882 787** (24 hour toll free), email [communityinfo@t2e.com.au](mailto:communityinfo@t2e.com.au) or visit the project website at [www.rms.nsw.gov.au/pacific](http://www.rms.nsw.gov.au/pacific) (see Tintenbar to Ewingsdale project).

Yours faithfully



Vincent Newton

**Boulderstone Project Director**



# Communications strategy for extended construction hours

Pacific Highway Upgrade – Tintenbar to Ewingsdale



## Appendix 2 — Feedback form

# Proposal to request extension to working hours



**Transport**  
Roads & Maritime  
Services

## COMMUNITY FEEDBACK

**JUNE 2013**

You are invited to provide feedback on the proposal to request extension to working hours on the Pacific Highway upgrade — Tintenbar to Ewingsdale, as outlined in the letter overleaf.

Please complete the feedback form below to advise the project team if you object/do not object to this proposal and return the form in the reply paid envelope provided, or by email, by **Monday 1 July 2013**.

Feedback forms that are not returned will be understood to be a non objection to the proposal.

We are also seeking your assistance to identify potential local issues associated with extending construction hours and invite your additional suggestions for mitigation strategies and/or innovative solutions.

**Q1** Do you have any objection to the proposal to extend construction hours, as outlined in this letter?

☐ **No**

☐ **Yes**

*If yes, please give details that would assist us with our planning:*

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**Q2** Do you understand the likely impacts and the mitigation measures that would be applied if work hours are extended?

☐ **No**

☐ **Yes**

**Q3** Would you like to be personally informed about the decision by Department of Planning and Infrastructure, if the project team proceeds with a submission to modify approved construction hours?

☐ **No**

☐ **Yes**

Any further comments/suggestions?

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Privacy statement

All information in correspondence is collected for the sole purpose of assisting in the assessment of this proposal. Submissions will not be responded to individually. All information received, including names and addresses of respondents, may be published in subsequent assessment documents unless clear indication is given in the correspondence that all or part of that information is not to be published.

☐ Please withhold this submission from publication

☐ Please withhold my details from publication

Name \_\_\_\_\_

Address \_\_\_\_\_

Suburb \_\_\_\_\_ State \_\_\_\_\_ Postcode \_\_\_\_\_

**How to lodge your feedback form**

✉ **communityinfo@t2e.com.au**

✉ **Reply paid 85913 PO Box 604, Bangalow NSW 2479**



BAULDERSTONE

# Consultation report for modification request for an extension to working hours

## Pacific Highway upgrade Tintenbar to Ewingsdale

Client: Roads & Maritime Services

Document Number: RPT-CI-003

|       |         |  |
|-------|---------|--|
|       |         |  |
| 0     | 22-7-13 | Consultation report for modification request for an extension to working hours |
| Rev # | Date    | Description of change  |

|           |   |       |     |
|-----------|---|-------|-----|
| APPROVALS | Prepared by: Susan Scott<br>Community Relations Manager | <hr/> | / / |
|           | Approved by: Vince NEWTON<br>Project Director           | <hr/> | / / |



# Consultation report for modification request for extension to working hours

Pacific Highway Upgrade – Tintenbar to Ewingsdale



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## 1. EXECUTIVE SUMMARY

Boulderstone Pty Ltd (BPL) undertook community consultation about its proposal to seek a modification to working hours between 17 June and 8 July 2013.

Feedback was sought from residents who would be affected by extended working hours. During the week commencing 17 June 2013, Australia Post delivered 2,351 letters and reply paid feedback forms to all residential properties, PO Boxes, businesses and counter services within targeted post codes. Additional feedback forms (88) were issued at the community information session held on 25 June 2013 and via email and post in response to inquiries.

Residents were informed in writing that feedback forms that were not returned would be understood to be a non-objection to the proposal.

Consultation closed on 8 July 2013. A total 301 submissions were received, as follows:

- Non-objection x 255 or 85%
- Objection x 43 or 14%
- N/A x 3 or 1%

Based on the submissions received, whilst several comments were received about the negative impacts of extended working hours, the community is in favour of extended working hours.

## 2. BACKGROUND

Roads and Maritime Services (RMS) has awarded a contract to Boulderstone Pty Ltd (Boulderstone) to design and construct the Pacific Highway upgrade — Tintenbar to Ewingsdale. This project is jointly funded by the NSW State and Federal Governments.

The upgrade will provide about 17 kilometres of dual carriageway, starting at the northern end of the Ballina bypass at Ross Lane, extending to the Ewingsdale interchange.

It is proposed to extend construction hours so that working hours can be maximised during both the dry season and daylight hours and night works can be kept to a minimum.

This report provides a summary of the consultation that was implemented over three weeks between 17 June and 8 July 2013 to inform the community about the proposal. Community feedback about the proposal has been used to gauge the level of community support for the proposal, and identify potential community issues on the proposal. This report will be incorporated into the proposal for submission to DP&I.

## 3. CONSULTATION OVERVIEW

A communications strategy, including tactics and tools, was developed and implemented to underpin consultation with the community about the proposal to extend the approved construction hours.



The strategy was designed to facilitate informing affected and adjacent residents, stakeholders and local communities about the need to extend construction hours, including the potential benefits and impacts, and inviting feedback on the proposal.

### 3.1 COMMUNICATION OBJECTIVES

The following communication objectives were developed to underpin the community consultation:

- Develop a strategic communications plan to support proactive community consultation about the proposal to extend construction hours.
- Engage effectively with the community to obtain feedback about the proposal.
- Identify potential issues associated with extended construction hours and use community feedback to inform the development of tailored mitigation strategies.

### 3.2 CONSULTATION PROGRAM

The community consultation program was based on the IAP2 model of engagement and was delivered in three phases, as outlined below:

#### Phase 1: Inform and consult

A notification about the proposal to extend construction hours was delivered by Australia Post to 2,351 potentially affected households and businesses across the project footprint, including delivery to street roadside, PO boxes and counter services (see Letter to householder at Appendix 1) during the week commencing 17 June 2013. The mailout details are summarised below:

| Postcode | Locality Name | Total Count |
|----------|---------------|-------------|
| 2481     | EWINGSDALE    | 247         |
| 2481     | MYOCUM        | 186         |
| 2481     | TALOFA        | 16          |
| 2479     | BANGALOW      | 1075        |
| 2479     | BROOKLET      | 94          |
| 2479     | COOPERS SHOOT | 112         |
| 2479     | KNOCKROW      | 68          |
| 2479     | MCLEODS SHOOT | 20          |
| 2479     | NEWRYBAR      | 203         |
| 2479     | POSSUM CREEK  | 80          |
| 2478     | TINTENBAR     | 250         |
| Total    |               | 2351        |

The notification included a separate feedback form (with reply paid envelope) designed to survey the level of community support for the proposal and to identify issues (see feedback form at Appendix 2) and potential mitigation strategies. The feedback form was also available

for viewing and download on the project website at [www.rms.nsw.gov.au/pacific](http://www.rms.nsw.gov.au/pacific) and was emailed to stakeholders, upon request.

### 3.3 SENSITIVE RECEIVER CONSULTATION

The following sensitive receivers were contacted by phone at the time of the mailout to arrange a briefing about the proposal (see Table of sensitive receiver consultation below):

| Sensitive Receiver   | Date         | Time    | Activity          | Response  |
|--|--------------|---------|-------------------|---|
| Macadamia Castle   | 18 June 2013 | 12.42pm | Phone call/ email | <ul style="list-style-type: none"> <li>Declined briefing</li> <li>Feedback submitted (non-objection)</li> </ul>   |
| Feros Village  | 20 June 2013 | 10.04am | Phone call/email  | <ul style="list-style-type: none"> <li>Declined briefing</li> <li>Feedback submitted (non-objection)</li> </ul>   |
| Ewingsdale Progress Association (representing Ewingsdale community hall) | 19 June 2013 | 3.00pm  | Phone call/email  | <ul style="list-style-type: none"> <li>Telephone briefing provided</li> <li>Feedback submitted (non-objection)</li> </ul>                                       |
| Newrybar Public School   | 19 June 2013 | 11.19am | Phone call        | <ul style="list-style-type: none"> <li>Declined briefing — not affected by proposed extended hours (School secretary)</li> <li>No feedback submitted</li> </ul> |
| High Valley Stonefruit Farm  | 18 June 2013 |         | Phone call        | <ul style="list-style-type: none"> <li>Declined briefing</li> <li>Feedback submitted (non-objection)</li> </ul>   |
| BrookFarm  | 18 June 2013 | 6.47pm  | Phone call/email  | <ul style="list-style-type: none"> <li>No response</li> <li>Feedback submitted (objection)</li> </ul>   |
| Bangalow Chamber of Commerce   | 3 July 2013  | 7pm     | Briefing          | <ul style="list-style-type: none"> <li>Briefing provided to Chamber on 3 July 2013 at 7pm</li> <li>Feedback submitted (non-objection)</li> </ul>                |

The proposal was also discussed at the June 2013 community information session (CIS) and printed copies of the notification and feedback form were available at the session (see also CIS questions at Appendix 3).

The invitation to provide feedback was also promoted via the following:



- RMS media release
- newsflash on the project website with a link to the proposal and feedback form
- E-alert to the project database.

#### Phase 2: Involve

Feedback was due to close on Monday 1 July 2013, but was extended to 8 July 2013 in response to several community requests. The extended feedback deadline was advertised on the project website and via an email sent to 420 project stakeholders.

Feedback has been recorded on the project database using *Consultation Manager* and issues have been captured and analysed to inform the decision-making process and the development of mitigation strategies (see also 6. Feedback summary).

#### Phase 3: Collaborate

The community will be informed about the outcome of the submission to Department of Planning and Infrastructure via public advertisement (DP&I), project website, community information session and notifications to directly affected residents, as required.

If extended hours are approved, the project team will continue to collaborate directly with affected residents and stakeholders (including sensitive receivers), to address specific concerns and to develop innovative and tailored solutions, as required e.g. meetings, presentations and information sessions.

Additional notifications will also be developed and distributed to directly affected residents and stakeholders to communicate local arrangements and tailored mitigation strategies for the proposed extended construction hours, as required.

## 4. COMMUNICATION TOOLS

The following communication tools were used to support community consultation about the proposal to extend construction hours.

| Communication tool  | Directly affected residents | General public/local communities |
|---|-----------------------------|----------------------------------|
| Letter of notification about proposal                               | ✓                           | ✓                                |
| Feedback form   | ✓                           | ✓                                |
| Targeted consultation with key resident and stakeholders            | ✓                           |                                  |
| Advertisement about extended hours consultation (local print media) |                             | ✓                                |

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| Communication tool   | Directly affected residents | General public/local communities |
|--|-----------------------------|----------------------------------|
| Media release about extended hours consultation (regional media) |                             | ✓                                |
| Community information sessions                                   |                             | ✓                                |
| Community display centre   |                             | ✓                                |
| Website updates  | ✓                           | ✓                                |
| Project information line (toll free 1800 882 787)                | ✓                           | ✓                                |
| Project email<br>communityinfo@t2e.com.au                        | ✓                           | ✓                                |
| E-alert to database to inform and invite feedback                | ✓                           |                                  |
| VMS signs on highway to advertise proposal and invite feedback   |                             | ✓                                |

## 5. KEY MESSAGES

The following key messages were used consistently throughout the consultation delivery to ensure clear and simple messaging about the proposal, the potential impacts and the benefits.

The following key messages were used consistently throughout the consultation delivery to ensure clear and simple messaging about the proposal, the potential impacts and the benefits.

M1 The project team is considering seeking approval by Department of Planning and Infrastructure (DP&I) to modify the standard construction hours for the project.

- Current approved work hours are Monday to Friday 7am to 6pm and Saturday 8am to 1pm.
- The proposed extended work hours for the duration of the project would be Monday to Friday 6.30am to 7pm and Saturday 7am to 4pm.

M2 The project team is seeking community feedback about the proposal to extend construction hours.

- Feedback will be used to gauge the level of community support for the proposal and identify potential community issues on the proposal.



- A report on the feedback will be incorporated into the proposal for submission to DP&I.

M3 The potential impacts of extended construction hours on residents and other stakeholders include:

- Possible construction noise, dust and vibration impacts.
- Potential minor delays for road users, subject to traffic management.

M4 The benefits of extended construction hours for stakeholders would include:

- Increased project efficiencies resulting in reduced overall duration of construction impacts to residents and road users.
- Maximising working hours during the dry periods of weather.
- Utilising extended natural light at certain times of the year (summer).
- A potential offset for weather disruptions to construction work.

M5 If the extension to construction hours is approved, the project team would consult further with stakeholders who have previously expressed objections to the extended hours proposal to discuss potential mitigation measures, including:

- Scheduling noisy works at less sensitive time periods.
- Limiting reversing to minimise beepers during extended hours.
- Shielding lights to ensure they are not pointing towards residences.
- Sound baffling and shielding of the worksite and equipment where possible.
- Construction noise and vibration levels will be monitored in accordance with the Noise and Vibration Management Plan.
- Ongoing dust monitoring will continue.
- Respite periods from high impact works as negotiated with directly affected stakeholders.
- Provision of alternative accommodation where all other mitigation options have been exhausted.

M6 We will continue to consult with the community to keep you informed.

## 6. COMMUNICATION CALENDAR

The following activities were delivered during implementation of the consultation strategy.

| Date/Timing                   | Activity  | Responsibility | Stakeholder         |
|-------------------------------|---|----------------|---------------------|
| Week commencing<br>17/06/2013 | Targeted consultation to coincide with mailout — individual briefing offered to all sensitive receivers (see also 2.2.1 Sensitive | BPL            | Sensitive receivers |

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| Date/Timing                | Activity   | Responsibility | Stakeholder   |
|----------------------------|--|----------------|---|
|                            | receiver consultation).  |                |   |
| Week commencing 17/06/2013 | Letter of notification and feedback form sent to households and businesses via Australia Post (including PO Boxes and counter services). | BPL            | Potentially affected residents and businesses across project alignment (total 2351) |
| 25/06/2013                 | Proposal presented at two community information sessions (CIS) held on the same day (AM and PM).   | BPL/RMS        | General public (see also CIS questions at Appendix 3)                               |
| 25–26/06/13                | Doorknock x 45 business properties to invite feedback and identify issues/concerns.  | BPL            | Bangalow business community   |
| 26/06/13–8/07/13           | VMS signs about proposal and feedback:<br>PROPOSED EXTENDED WORK HRS<br>FEEDBACK 1800 882 787  | BPL            | Travelling public   |
| 27/06/13                   | E-alert (mass email) about proposal sent to database with attachments (letter + feedback form).  | BPL            | Project stakeholders x 416 registered on database                                   |
| 03/07/13                   | Sensitive receiver briefing.   | BPL            | Bangalow Chamber of Commerce  |
| 08/07/2013                 | Feedback closed.   |                |   |
| 29/07/2013                 | Consultation report (including issues) provided to RMS.  | BPL            | RMS   |



## 7. FEEDBACK SUMMARY

The following table summarises the community feedback by project stakeholder groups.

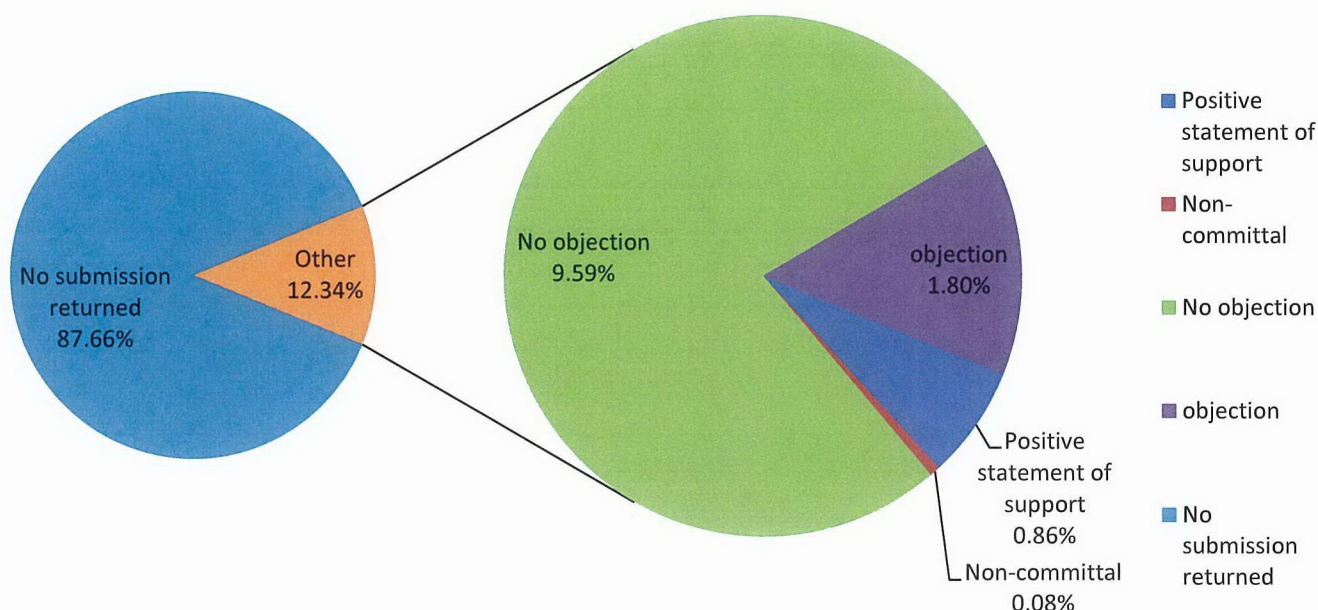
| Stakeholder  | Date                           | Communication tool  | Recipients/attendees     | Feedback provided                 |
|--|--------------------------------|---|--------------------------|-----------------------------------|
| Residents/PO Boxes and businesses                        | w/c 17 June 2013               | Letter and feedback form                                    | 2351                     | 284                               |
| General public (community information session attendees) | 25 June 2013 (12pm and 5:30pm) | Community information session presentation<br>Feedback form | 33                       | 2                                 |
| Bangalow businesses                                      | 25–26 June 2013                | Letter and feedback form (delivered via doorknock)          | 45                       | 14                                |
| Bangalow Chamber of Commerce                             | 3 July 2013                    | PPT x Project Director<br>Feedback form                     | Chamber x 10 members     | 1 (on behalf of the Chamber)      |
| All stakeholders   | w/c 17 June 2013               | Letter and feedback form                                    | All recipients/attendees | 2138 (no response = no objection) |
|  |                                | Total   | 2439                     | 2439                              |

### 7.1 FEEDBACK ANALYSIS

As noted above, 2138 feedback forms were not returned (non-returns). These non-returns have been collated as non-objections, as the reply paid feedback form clearly stated, "Feedback forms that are not returned will be understood to be a non-objection to the proposal."

On this basis, 88 per cent of stakeholders did not express an objection to the proposal. Total feedback is depicted in the diagram below, including 10 per cent of stakeholders who had no objection to extended hours (9 per cent no objection + 1 per cent positive support). In total, 98 per cent of stakeholders who were consulted expressed no objection to the proposal.

## Proposal to extend construction hours - community feedback



## 7.2 FEEDBACK SUMMARY AND ADDITIONAL COMMENTS

| Feedback question   | Response |     |     |
|---|----------|-----|-----|
|   | Yes      | No  | Nil |
| <p>Q1: Do you have any objection to the proposal to extend construction hours, as outlined in this letter? No/Yes?</p> <p>If yes, please give details that would assist us with our planning.</p> <ul style="list-style-type: none"> <li>We have a young baby and object to the extended period of noise.</li> <li>I feel the 6.30am start is too early if the work is within relatively close proximity to our property i.e. within 500m.</li> <li>The extension to construction hours is beyond reasonable. A 6.30am start would mean truck movements beginning much earlier.</li> <li>You must be joking! Yes I object...we look forward to</li> </ul> | 43       | 255 | 3   |



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| Feedback question  | Response |    |     |
|--|----------|----|-----|
|  | Yes      | No | Nil |
| <p>quiet Saturday afternoons.</p> <ul style="list-style-type: none"> <li>Noise pollution from trucks/excavation noise.</li> <li>I think it's unreasonable to create noise from the works all day on Saturday.</li> <li>What's the point of having working hour restrictions to protect surround residents when a government (RMS) is trying to avoid complying?</li> <li>Noise and traffic delay issues.</li> <li>We have small children that get woken at 7am now and 6.30am is just rude! And 7am on Saturday is also unacceptable.</li> <li>My family...is suffering from stress and lack of privacy due to the works...they have found the current noise and disruption unbearable, so an increase is not supported.</li> <li>The hours are long enough, noisy enough and dusty...we wake up to the noise every day except Sunday and 6.30am is unreasonable.</li> <li>As if 7am blasts and utes arriving at 6am and waking our household up isn't enough, then to ask for earlier construction hours...6.30am is definitely too early.</li> <li>Go for it. Don't know why you didn't do so earlier.</li> <li>We have no privacy or respite from the construction noise...We only have Saturday afternoons and Sunday to ourselves. The animals hate the noise. The rest of the week we are surrounded and negatively impacted by the noise.</li> <li>Engine noise, vibrations and reversing signal/beeping are very irritating and extension of hours will increase our irritation/unpleasant environment further.</li> <li>I want to know how the extra hours will affect my commute.</li> <li>There are no mitigation measures to address work vehicles travelling to and from the site.</li> <li>We have some concerns about the noise on Saturdays.</li> <li>You can work 24/7 as far as I'm concerned. The road</li> </ul> |          |    |     |

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request for extension to working hours  
Pacific Highway Upgrade – Tintenbar to Ewingsdale



| Feedback question  | Response |    |     |
|--|----------|----|-----|
|  | Yes      | No | Nil |
| <p>needs finishing ASAP.</p> <ul style="list-style-type: none"> <li>• Saturday afternoon noise not welcomed, already excessive noise.</li> <li>• I approve and encourage the extended working hours.</li> <li>• Any noise before 7am would not be suitable.</li> <li>• Cover reduce speed signage when works are not being undertaken.</li> <li>• 6.30am is an unreasonable hour to start.</li> <li>• Too much traffic, noise disruption and delays.</li> <li>• Saturday morning is already annoying.</li> <li>• I think it will affect people's leisure time.</li> <li>• Current interruptions on the highway are sufficient to put up with.</li> <li>• Blatant disregard by your trucks and pick-ups for road rules.</li> <li>• The noise from your site at the moment is just about unbearable. I am AGAINST the proposal for extended construction hours.</li> <li>• My house now suffers from vibrations from the truck movements.</li> <li>• Speeds into and out of Bangalow need to be reduced.</li> <li>• Increased noise and more trucks on local roads.</li> <li>• We were compensated based on the existing hours...we would be without [within] our legal rights to seek additional compensation.</li> </ul> |          |    |     |
| <p>Q2: Do you understand the likely impacts and the mitigation measures that would be applied if work hours are extended? No/Yes?</p> <p>Additional comments:</p> <ul style="list-style-type: none"> <li>• I don't believe they would work. All the so called "mitigation measures" haven't made much difference so far!!</li> <li>• Because it's not clear to what extent it will affect the</li> </ul>   | 266      | 23 | 12  |



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| Feedback question   | Response |     |     |
|---|----------|-----|-----|
|   | Yes      | No  | Nil |
| <p>Byron interchange which is already a pain to drive though.</p> <ul style="list-style-type: none"> <li>But that doesn't matter if the job will be completed earlier.</li> <li>I would have thought your proposed mitigation measures were already part of your current work practice.</li> </ul>  |          |     |     |
| Q3: Would you like to be personally informed about the decision by the Department of Planning and Infrastructure, if the project proceeds with a submission to modify approved construction hours? No/Yes?  | 121      | 167 | 13  |
| <p>Any further comments/suggestions:</p> <ul style="list-style-type: none"> <li>The team is doing a fantastic job.</li> <li>The impact...will have a negative and disrupting effect on...our family life.</li> <li>Get the job done as soon as you can/as quickly as possible.</li> <li>The old highway is lethal. The sooner the new one is completed the better.</li> <li>You should have stated the existing out of hours approval remains unchanged.</li> <li>I am too close and already suffer noise disturbance at the edges of the approved times.</li> <li>The extended hours proposed are minimal and if it helps in expediting the project I think it's a good idea.</li> <li>We...are surprised at how little we've been affected by the roadwork so far.</li> <li>After 8 hours I'm tired of the noise.</li> <li>Fine weather should be maximised to get the job done and save NSW taxpayers .</li> <li>It disgusts me that you are so happy to disrupt people's lives just to make a profit.</li> <li>Are you going to remove all the reversing beepers that are the most irritating and can be heard 2km away?</li> <li>Try to employ more locals.</li> <li>The hours you are wanting to work should have been</li> </ul> | 100      |     | 201 |

# Consultation report for modification request for extension to working hours

Pacific Highway Upgrade – Tintenbar to Ewingsdale

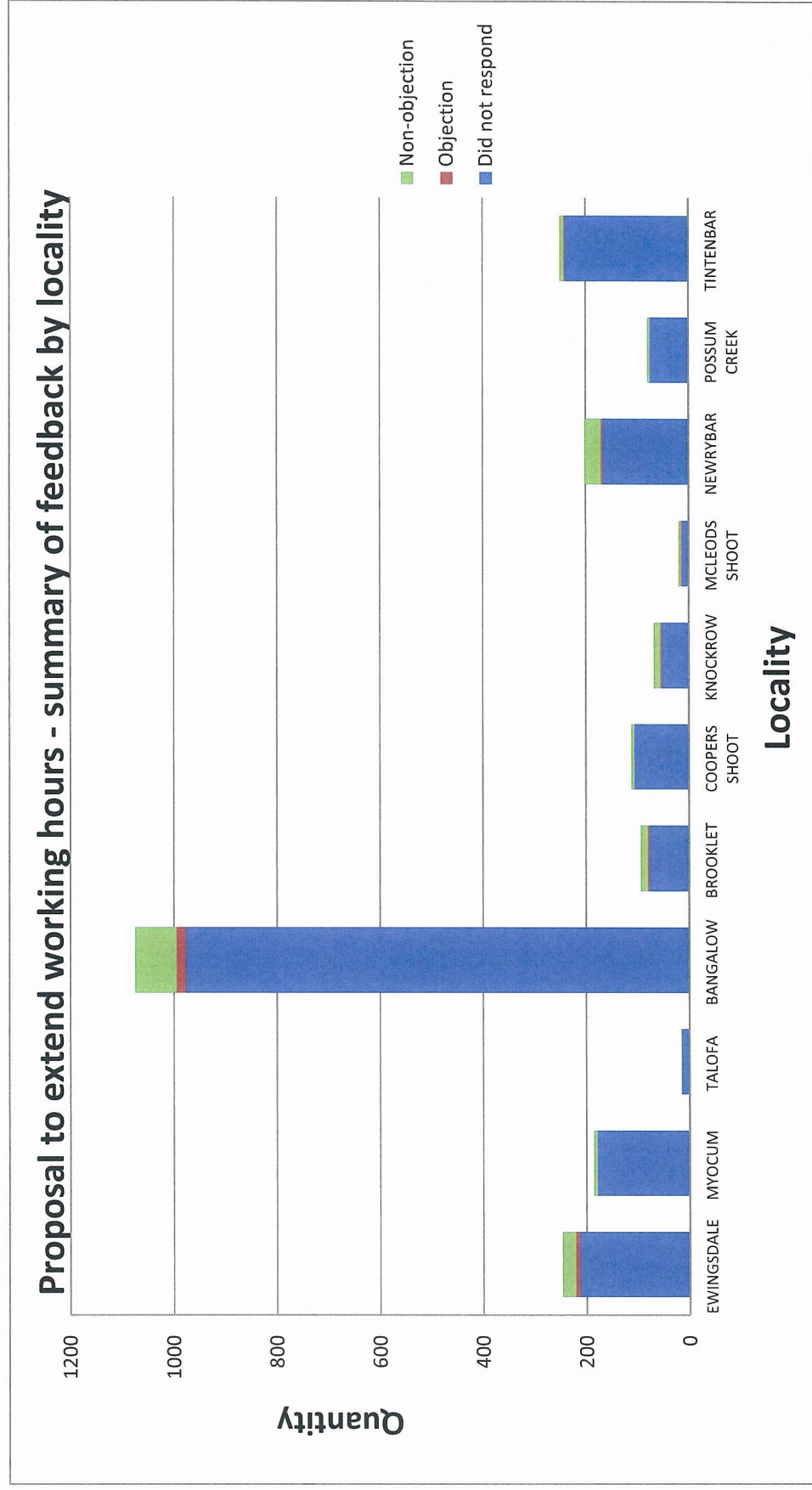


| Feedback question   | Response |    |     |
|---|----------|----|-----|
|   | Yes      | No | Nil |
| <p>applied for at the start of the job, particularly a full day on Saturday.</p> <ul style="list-style-type: none"> <li>• Reduce the 'beeping' from reversing trucks.</li> <li>• My only comment would be that the workers themselves are happy to work longer hours each day.</li> <li>• It would be great to get it finished as soon as possible.</li> <li>• Be careful that the minority that will hear the noise, feel the vibration and breath the dust does not feel ganged up on. Their opinions should count for ten times ours.</li> <li>• Keep up the good work.</li> <li>• Keep trucks using Byron Street to a minimum.</li> <li>• ...to have the extended construction hours changed to 7pm is completely unacceptable. We suggest that the hours be extended only in the early mornings.</li> <li>• A survey should be audited by an independent body – your system here is open to abuse.</li> <li>• Saturday hours are starting too early.</li> <li>• Saturdays are busy with sport etc.</li> <li>• The hours were negotiated with locals during initial planning – why do we have to re-negotiate?</li> <li>• Please respect our rights to peace and quiet.</li> <li>• ...greater weight be given to the opinions of those residents whose properties are adjacent to any greenfield areas of the construction.</li> <li>• I think the whole project is being handled with absolute minimum disruption to the traffic and I commend you on your ongoing feedback to the local community.</li> <li>• Previously agreed hours are adequate. Enough is enough.</li> <li>• The constant beeping of reversing trucks is annoying to the nth degree. Limit it now!</li> </ul> |          |    |     |



### 7.3 FEEDBACK PROFILE — LOCALITIES

The following diagrams provide a summary of feedback based on location and should be read in conjunction with the additional feedback location maps at Appendix 4.



## 8. CONCLUSION

Based on the submissions received, whilst several comments were received from some residents about the negative impacts of extended working hours, there were few objections (2%). Overall, 97% of the community is in favour of extended working hours (1% did not record opinion).

In addition, the project team has recently consulted with directly affected residents at Emigrant Creek (September 2013) to seek feedback about a 24hr construction program over six weeks, to complete critical work prior to the next wet season. The proposal has been approved by 100% of affected residents, based on their positive experience of previous night work at the same location (April 2013).

Such favourable endorsement demonstrates the comprehensive issues and risk management that is undertaken by the project team during pre-planning and delivery of works outside standard construction hours to ensure residents are fully informed and the impacts are effectively managed.

If the proposed working hours modification is approved, the project team will continue to work proactively with directly affected residents, businesses and community stakeholders to inform, consult and collaborate in the development of strategic and tailored solutions to minimise construction impacts.



## Appendix 1 — Letter to householder

# To the householder



**Transport**  
Roads & Maritime  
Services

**JUNE 2013**

## **PROPOSAL TO EXTEND WORKING HOURS**

Dear Resident/Community member

### **Re: Pacific Highway upgrade — Tintenbar to Ewingsdale proposal to extend construction hours**

Roads and Maritime Services (RMS) has awarded a contract to Boulderstone Pty Ltd (Boulderstone) to design and construct the Pacific Highway upgrade — Tintenbar to Ewingsdale. This project is jointly funded by the NSW State and Federal governments.

The upgrade will provide about 17 kilometres of dual carriageway, starting at the northern end of the Ballina bypass at Ross Lane, extending to the Ewingsdale interchange.

### **What's happening?**

The project team is considering approaching the Department of Planning and Infrastructure (DP&I) for an extension to the project's approved construction hours

Extending construction hours will help deliver the upgrade as soon as possible, providing a safer section of highway. We are seeking community comment on this proposal.

Feedback will be used to gauge the level of community support for the proposal, and identify potential issues. A report on the feedback will be incorporated into the proposal for submission to DP&I.

The current approved construction hours are:

- 7am to 6pm Monday to Friday
- 8am to 1pm on Saturday.
- No work on Sundays or public holidays

### **What is proposed?**

The proposed extended construction hours would be:

- 6.30am to 7pm Monday to Friday
- 7am to 4pm on Saturday
- No work on Sundays or public holidays

The project team is not proposing to increase working hours for controlled blasting.

### **What are the potential benefits of extending construction hours?**

If standard construction hours are extended, residents and road users could potentially benefit by:

- Increased project efficiencies resulting in reduced overall duration of construction impacts.

Roads and Maritime Services

Pacific Highway upgrade – Tintenbar to Ewingsdale  
Reply Paid 85913, PO Box 604  
BANGALOW NSW 2479

**[www.rms.nsw.gov.au/pacific](http://www.rms.nsw.gov.au/pacific) | T 1800 882 787**

This project is funded by the NSW State and Federal Governments.



**Transport**  
Roads & Maritime  
Services



**BAULDERSTONE**



- Maximising working hours during dry weather.
- Utilising extended natural light at certain times of the year (summer).
- A potential offset for weather disruptions to construction work.

#### **What are the potential impacts of extending construction hours?**

If standard construction hours are extended, residents and road users could potentially be affected by:

- Possible construction noise, dust and vibration impacts.
- Potential minor delays, subject to traffic management.

#### **Mitigation measures**

Mitigation measures will continue to be implemented during the proposed extended hours, including:

- Scheduling noisy works at less sensitive times.
- Limiting reversing to minimise beepers during extended hours.
- Shielding lights to ensure they are not pointing towards residences.
- Sound baffling and shielding of the worksite and equipment where possible.
- Monitoring construction noise and vibration levels.
- Ongoing dust monitoring.

If the extension to construction hours is approved, the project team would consult further with directly affected residents to discuss potential mitigation measures.

#### **Feedback form (see overleaf)**

We are seeking your feedback about the proposal to extend construction hours, as outlined above. We are also seeking your assistance to identify potential local issues associated with extending construction hours and invite your suggestion for mitigation strategies and/or innovative solutions.

Please complete the feedback form included with this letter to advise the project team if you object/do not object to this proposal and return the form in the reply paid envelope, also provided, by **Monday 1 July 2013**.

If you require more information or have any queries, comments, or complaints, please contact the community relations team on **1800 882 787** (24 hour toll free), email [communityinfo@t2e.com.au](mailto:communityinfo@t2e.com.au) or visit the project website at [www.rms.nsw.gov.au/pacific](http://www.rms.nsw.gov.au/pacific) (see Tintenbar to Ewingsdale project).

Yours faithfully



Vincent Newton

**Boulderstone Project Director**

## Appendix 2 — Feedback form



# Proposal to request extension to working hours



**Transport**  
Roads & Maritime  
Services

## COMMUNITY FEEDBACK

**JUNE 2013**

You are invited to provide feedback on the proposal to request extension to working hours on the Pacific Highway upgrade — Tintenbar to Ewingsdale, as outlined in the letter overleaf.

Please complete the feedback form below to advise the project team if you object/do not object to this proposal and return the form in the reply paid envelope provided, or by email, by **Monday 1 July 2013**.

Feedback forms that are not returned will be understood to be a non objection to the proposal.

We are also seeking your assistance to identify potential local issues associated with extending construction hours and invite your additional suggestions for mitigation strategies and/or innovative solutions.

**Q1** Do you have any objection to the proposal to extend construction hours, as outlined in this letter?

☐ **No**

☐ **Yes**

*If yes, please give details that would assist us with our planning:*

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**Q2** Do you understand the likely impacts and the mitigation measures that would be applied if work hours are extended?

☐ **No**

☐ **Yes**

**Q3** Would you like to be personally informed about the decision by Department of Planning and Infrastructure, if the project team proceeds with a submission to modify approved construction hours?

☐ **No**

☐ **Yes**

Any further comments/suggestions?

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### Privacy statement

All information in correspondence is collected for the sole purpose of assisting in the assessment of this proposal. Submissions will not be responded to individually. All information received, including names and addresses of respondents, may be published in subsequent assessment documents unless clear indication is given in the correspondence that all or part of that information is not to be published.

☐ Please withhold this submission from publication

☐ Please withhold my details from publication

Name \_\_\_\_\_

Address \_\_\_\_\_

Suburb \_\_\_\_\_

State \_\_\_\_\_

Postcode \_\_\_\_\_

### **How to lodge your feedback form**



**communityinfo@t2e.com.au**



**Reply paid 85913 PO Box 604, Bangalow NSW 2479**



## **Appendix 3 — Community information session #16 (questions regarding proposal to extend construction hours)**

17

**Proposal to extend construction hours**

Susan Scott explained the consultation currently being undertaken with regards to the project's proposal to extend construction hours.

**Questions and comments – 25 June (session 1)**

**Question: From a staffing point of view does it change their working hours?**

Dave Packer advised that it effectively doesn't change the working hours as in this industry long hours are often the standard. Employees would not be expected to work 13 hour days consistently so rosters would need to be put in place. There are stringent safety regulations regarding people working alone, break times and time between shifts.

**Comment: Nobody should have to work more than a 10 hour day.**

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**Question: Will it increase or decrease overall costs?**

Dave Packer advised that longer work hours can lead to overtime and penalty rates, however, there are savings in finishing the project earlier. The overheads would be less with the project finishing on time. The driver for extended construction hours is finding out from the community whether they want the project to finish up sooner.

**Question: Do you have a penalty clause [as part of your contract]?**

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**Question: I assume you won't be working until 7pm in the winter period when it's dark?**

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**Question: If you work until 6pm with the rock crusher at Ewingsdale now, I assume that will run to 7pm [with extended hours]?**

Dave Packer advised he would take the question on notice. Rock crushing is an activity that needs to be investigated more closely in relation to extended working hours. This is the type of feedback required during the consultation period.

**Question: At the moment I see all the work going on around the crusher, there was supposed to be an earthmound to cover these works. Is it going to be made bigger?**

Susan Scott advised that the earthmound had been installed as specified at 2-2.5m in height.

**Question: But what about the trucks, I can see all the trucks going to the crusher? It's become increasingly noisy over the last month.**

Susan Scott advised it was always the intention to mitigate the noise from the engine of the rock crusher. Noise monitoring results can be provided.

**Comment: The last time you monitored at my house you told me the cicadas were louder than the construction noise.**

**Comment: It does sound like an extension to construction hours would be the straw that broke the camel's back in that area.**



**Comment: But, you're not really going to increase the noise as such, you're just going to condense it into a shorter time.**

Dave Packer commented that this was correct and this is the type of feedback the project team are seeking.

**Question: Is there going to be concrete batch plants?**

Dave Packer advised two concrete batch plants were proposed, which were going through environmental approvals now. The project requires approximately 150 000m<sup>3</sup> of concrete and local suppliers did not have enough capacity to match this supply.

**Questions: Roughly where will they be?**

Dave Packer advised the two proposed locations are at Minor Creek, near gate 6 and at Ewingsdale, near gate 22.

*End of questions and comments for session 1*

**Questions and comments – 25 June (session 2)**

**Question: In Clover Hill we hear beep, beep, beep all day. Is there an option to have extended hours everywhere except Clover Hill?**

Matt Saviana advised that the Department of Planning and Infrastructure make the overall decision on what hours are granted. On other projects there are green zones where work can continue during the extended hours period and red zones where it can't.

**Comment: But you haven't given us that option.**

Susan Scott advised that this was the point of the consultation. "We're hoping that people will tell us that."

**Comment: The Bangalow Progress Association has big issues with this.**

Peter Borrelli advised that that was fine and the project would like to hear from them. Some people will feel this way and others have a different point of view.

**Comment: Some people have their lives impacted on more than others though.**

Peter Borelli commented that that was fine, but other people have a different point of view.

**Comment: It's no wetter this year than it has been in previous years - just get on with building the road. Don't try to give us this stuff about trying to make up lost time.**

**Comment: You'll just make more money.**

**Comment: Will you be consulting with the Bangalow Progress Association? Because they are now representing the people of Bangalow.**

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**Comment: You're saving money on accommodation for workers and all of that [if project is completed earlier].**

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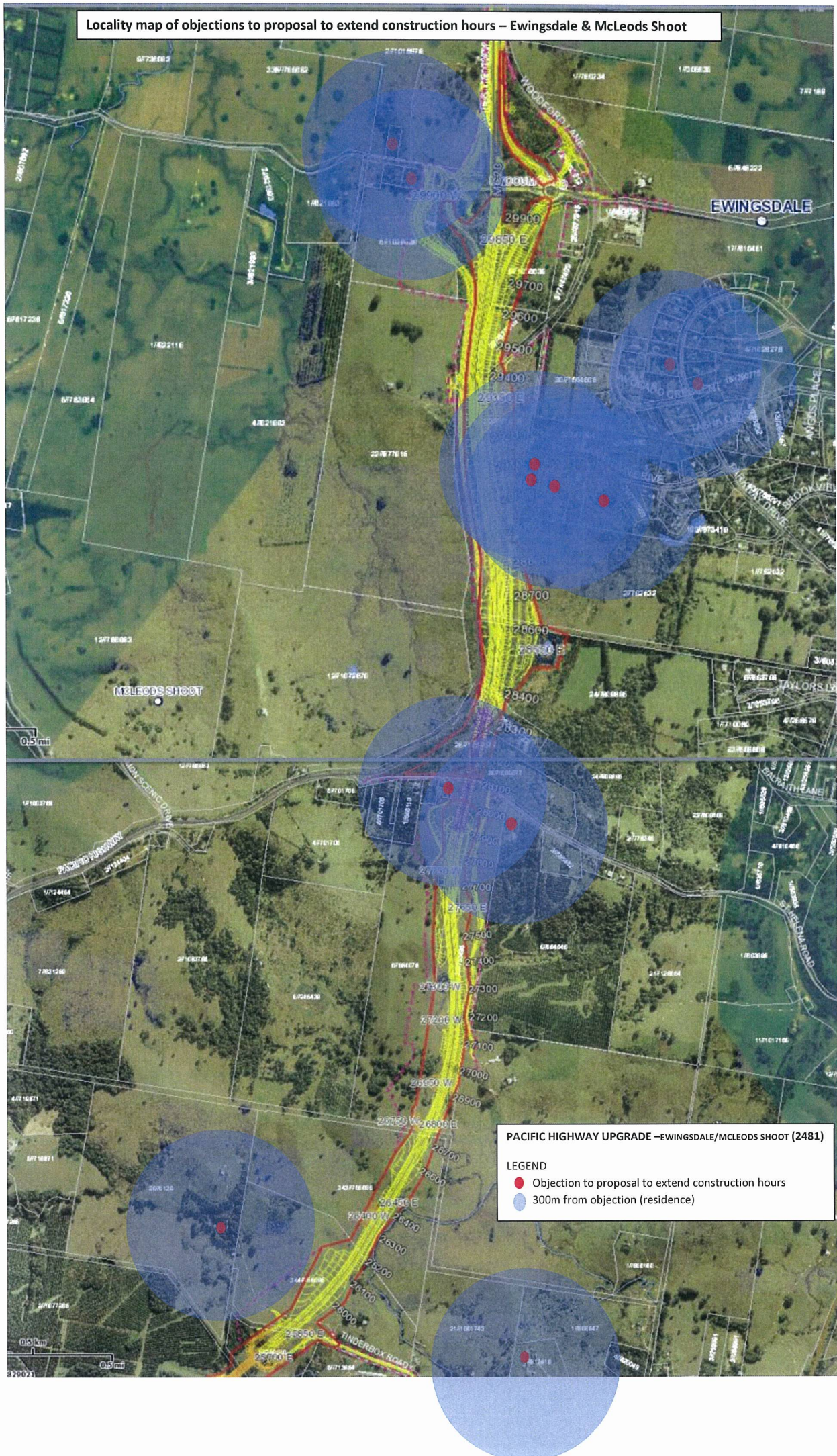
|    |  |
|----|--|
|    | <p><b>Question: So the machinery wouldn't start before seven?</b><br/>Peter Borelli advised that particularly noisy or disruptive works could be programmed out of the extended hours period.</p> <p><b>Question: Will it be for 12 months?</b><br/>Peter Borelli commented that periods of extended hours would be worked for the duration of the project.</p> <p><b>Question: Does Boulderstone stand to make a profit?</b><br/>Matt Saviana advised that Boulderstone does not stand to make a profit through meeting a certain project timeline. In the contract the contractor is granted extra time throughout the year during rain periods.</p> <p><b>Comment: It should have been addressed during the planning stages [extended working hours].</b><br/>Matt Saviana advised that the option to modify the construction hours would still have come up at some point, as it does on every project.</p> <p><b>Question: With 12.5 extra hours a week, will you need to take on extra staff?</b><br/>Matt Saviana explained that it will more be a staggering of the work. The people that start the day are not generally the same ones that finish. Employees working extra hours need to be carefully monitored. Where works are inaudible they can already be completed outside of approved hours.<br/>Peter Borelli advised that a couple of months ago a night works concrete pour was conducted with no complaints.</p> <p><b>Question: How many houses was that [near the out-of-hours concrete pour]? It's hardly in town.</b><br/>Peter Borelli commented that if its one house or fifty they are all important.</p> <p><b>Comment: Well thank you for consulting with us [about this proposal] it's a good process.</b></p> <p><b>Comment: I think road safety need to be reviewed again, especially after the accident tonight. I think that should be the priority, not finishing on time.</b></p> <p><i>End of questions and comments for session 2</i></p> |
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## Appendix 4 — Feedback location maps

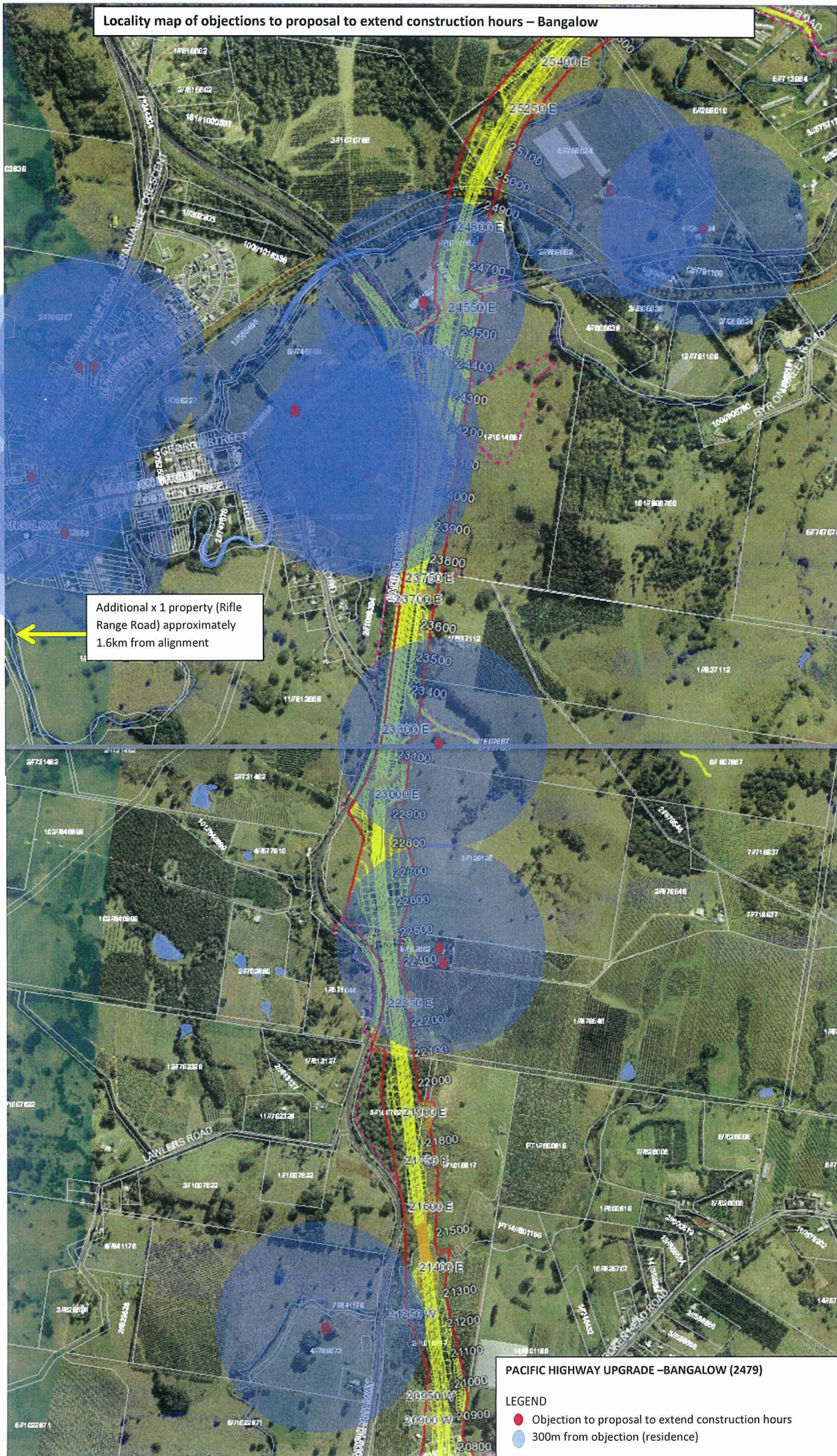


Locality map of objections to proposal to extend construction hours – Ewingsdale & McLeods Shoot





# Locality map of objections to proposal to extend construction hours – Bangalow





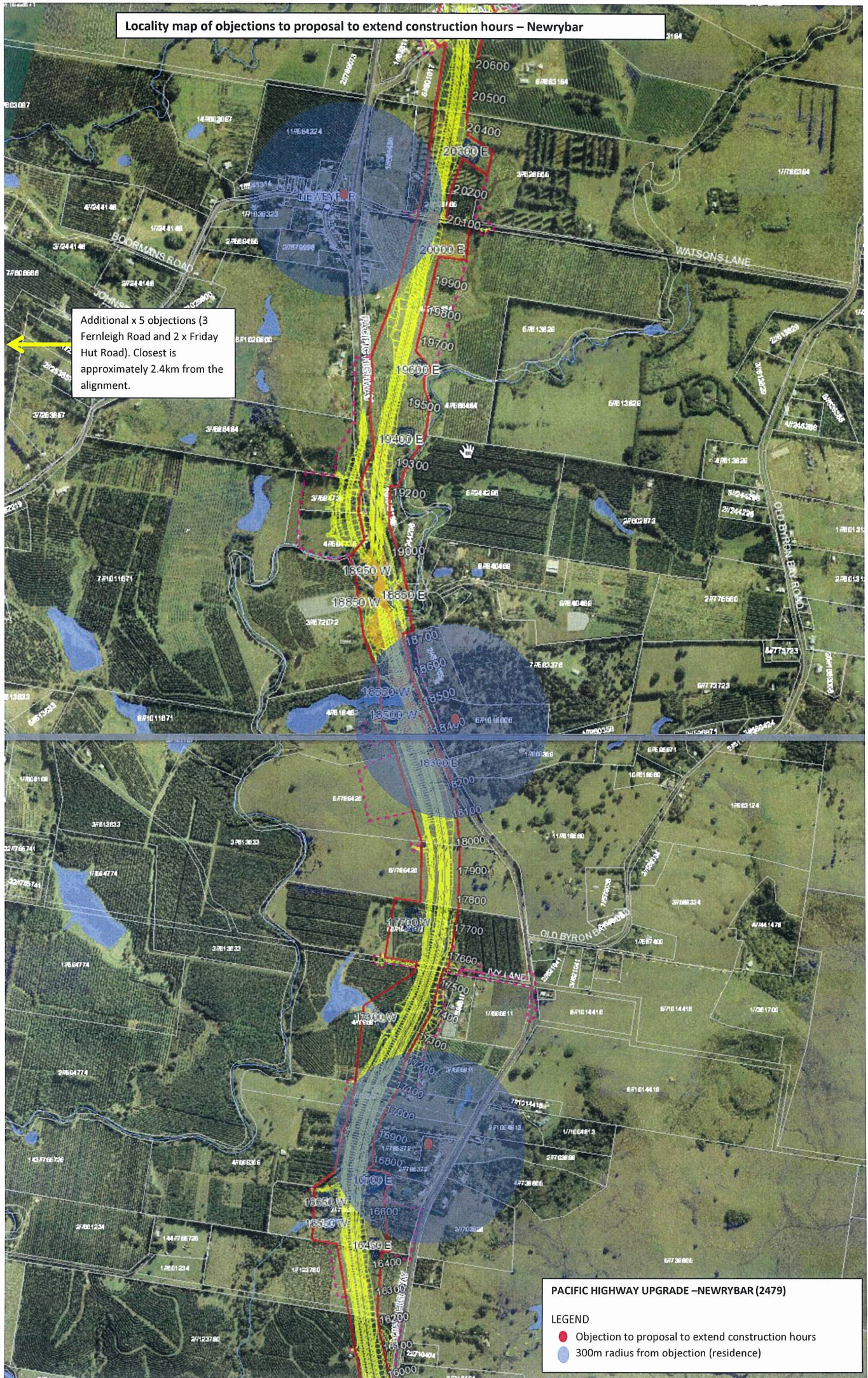
# Locality map of objections to proposal to extend construction hours – Newrybar

Additional x 5 objections (3 Fernleigh Road and 2 x Friday Hut Road). Closest is approximately 2.4km from the alignment.

## PACIFIC HIGHWAY UPGRADE –NEWRYBAR (2479)

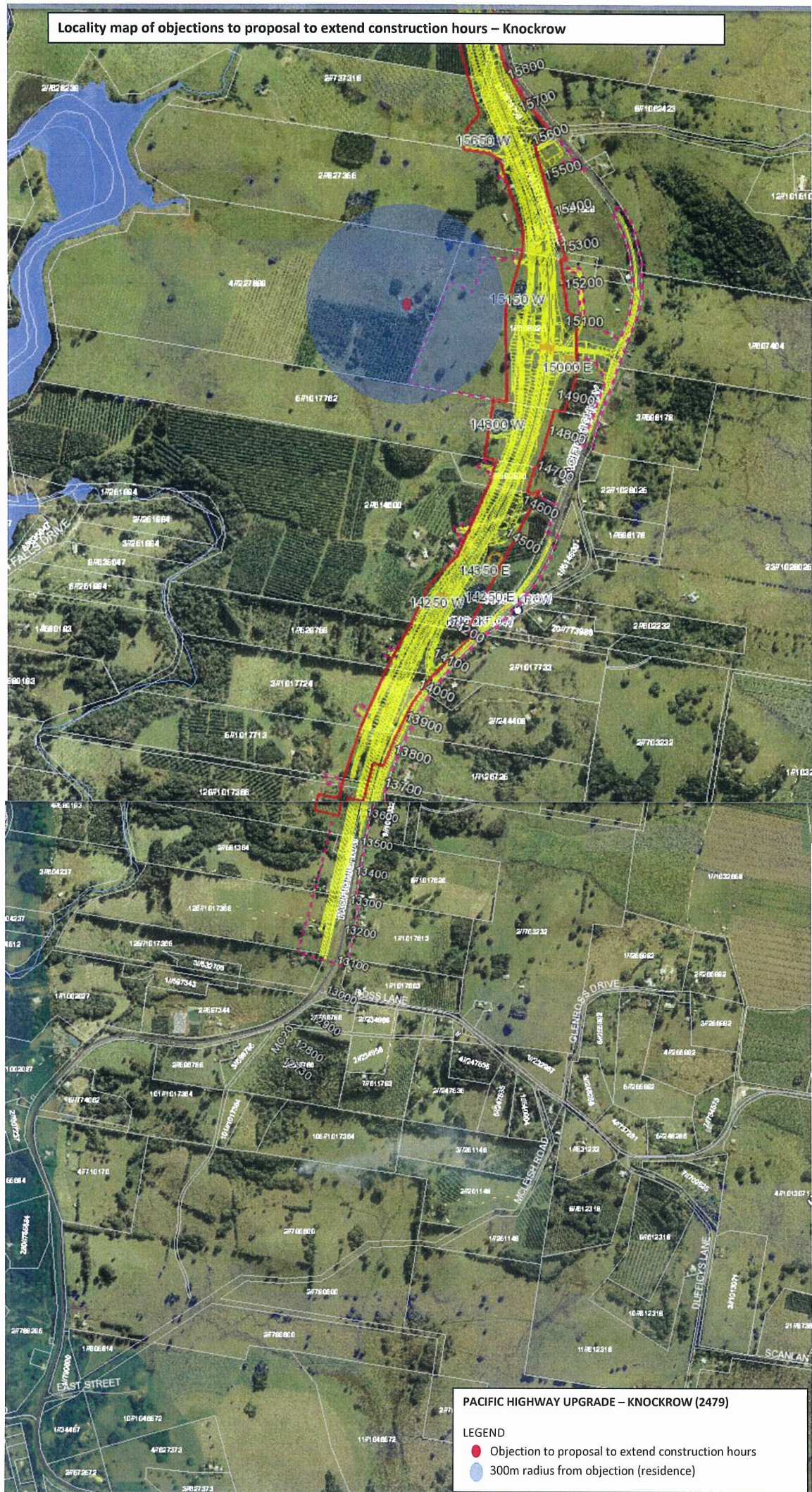
### LEGEND

- Objection to proposal to extend construction hours
- 300m radius from objection (residence)





# Locality map of objections to proposal to extend construction hours – Knockrow



PACIFIC HIGHWAY UPGRADE – KNOCKROW (2479)

## LEGEND

- Objection to proposal to extend construction hours
- 300m radius from objection (residence)



## **Appendix 2 – Community Information Session Presentation and Minutes (25/06/2013)**



# TINTENBAR TO EWINGSDALE

Community information session  
No.16

**Construction and traffic  
management look ahead**

25 June 2013



St Helena tunnel excavation works (south portal)



# Agenda



Transport  
Roads & Maritime  
Services

- Construction update and look ahead including:
  - Construction
  - Traffic management
  - Controlled blasting.
- Current community consultation:
  - Clover Hill boundary fence options
  - Proposal to extend working hours
- Informal discussion with project team members.



# Proposal to extend construction hours

- The project team is considering approaching the Department of Planning and Infrastructure (DP&I) for an extension to the project’s approved construction hours
- Extending construction hours will help deliver the upgrade as soon as possible, providing a safer section of highway.

| Current construction hours  | Proposal to extend construction hours   |
|---|---|
| <ul style="list-style-type: none"><li>• 7am to 6pm Monday to Friday</li></ul>           | <ul style="list-style-type: none"><li>• 6.30am to 7pm Monday to Friday</li></ul>        |
| <ul style="list-style-type: none"><li>• 8am to 1pm on Saturday</li></ul>                | <ul style="list-style-type: none"><li>• 7am to 4pm on Saturday</li></ul>                |
| <ul style="list-style-type: none"><li>• No work on Sundays or public holidays</li></ul> | <ul style="list-style-type: none"><li>• No work on Sundays or public holidays</li></ul> |

- The project team is not proposing to increase working hours for controlled blasting.



# Proposal to extend construction hours



## What are the potential benefits of extending construction hours?

- Increased project efficiencies
- Reduced overall duration of construction impacts
- Maximising working hours during dry weather.
- Utilising extended natural light at certain times of the year (summer).
- A potential offset for weather disruptions.

## What are the potential impacts of extending construction hours?

- Possible construction noise, dust and vibration impacts.
- Potential minor delays, subject to traffic management.



# Proposal to extend construction hours



## Mitigation measures

Mitigation measures will continue to be implemented during the proposed extended hours, including:

- Scheduling noisy works at less sensitive times.
- Limiting reversing to minimise beepers during extended hours.
- Shielding lights to ensure they are not pointing towards residences.
- Sound baffling and shielding of the worksite and equipment where possible.
- Monitoring construction noise and vibration levels.
- Ongoing dust monitoring.
- If the extension to construction hours is approved, the project team would consult further with directly affected residents to discuss potential mitigation measures.



## Proposal to extend construction hours





Transport  
Roads & Maritime  
Services

- We are seeking community comment on the proposal.
- Feedback forms have been delivered to over 2,000 residents via Australia Post.
- We will also present to the Bangalow Chamber of Commerce to ensure we capture the Bangalow business community.
- The project team will also speak directly to businesses on Main Street.
- Feedback will be used to gauge the level of community support for the proposal and identify potential issues.



## Proposal to extend construction hours

- Feedback forms and reply paid envelopes are **available today** or visit the project website at [www.rms.nsw.gov.au/pacific](http://www.rms.nsw.gov.au/pacific) (see Tintenbar to Ewingsdale).
- Feedback closes **Monday 1 July 2013**.
- Feedback forms can be lodged at:
  -  [communityinfo@t2e.com.au](mailto:communityinfo@t2e.com.au)
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17

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## **Appendix 3 – ERG Consultation**

# ENVIRONMENTAL REVIEW GROUP



BAULDERSTONE

## ERG13 –

## Wednesday 27<sup>th</sup> February



# ENVIRONMENTAL REVIEW GROUP AGENDA

## 27<sup>th</sup> February 2013



BAULDERSTONE

1. Construction update
  - a. Rainfall update
  - b. Sedimentation basins – progress
  - c. Drainage Works in or adjacent to waterways – in progress and proposed
  - d. Temporary creek crossings lookahead
  - e. Working in Waterways Update - Current and Future
  - f. Emigrant creek culvert extension
  - g. Creek diversion at the fish farm
  - h. Creek diversion at Ch27100
  - i. Lomandra reuse
2. Design review / response
3. Environmental update
  - a. Ancillary facilities
  - b. Use of recycled water update
  - c. Daily water use at Byron and Minor Creeks, Lennox sand mine, farm dams

# ENVIRONMENTAL REVIEW GROUP AGENDA

## 27<sup>th</sup> February 2013



BAULDERSTONE

4. Proposed extension of hours modification
5. Out of hours works
6. Environmental monitoring results
7. Blasting Update
8. Ecological update
9. Australia Day Long Weekend
10. Flocculent
11. Environmental complaints and according action



## 4. Proposed extension of hours modification



BAULDERSTONE

The suitability of options for extended working hours has been determined through assessment of benefits and impacts to Project Stakeholders and the wider community.

### Benefits v Potential Impacts

| Proposed Hours   | Potential Community Impact | Benefits to Project Progression | Impact on Project Personnel | Overall Suitability |
|--|----------------------------|---------------------------------|-----------------------------|---------------------|
| 1. 7:00am to 6:00pm (Saturdays)                        | High                       | High                            | High                        | Low                 |
| 2. 6:30am to 7:00pm (weekdays)                         | Moderate                   | High                            | High                        | Moderate            |
| 3. 7:00am to 4:00pm (Saturdays)                        | Moderate                   | Moderate                        | Moderate                    | Moderate            |
| 4. Cumulative Assessment of 1. and 2.                  | High                       | High                            | High                        | Low                 |
| 5. Cumulative Assessment of 1. and 2. With mitigations | Low                        | High                            | Moderate                    | High                |



## 4. Proposed extension of hours modification



BAULDERSTONE

### What's next?

- A comprehensive community consultation strategy will be developed and initial community consultation undertaken.
- A report will be prepared for review by all ERG member agencies
- The finalised report will be submitted to the Department of Planning and Infrastructure for approval. (June 2013)
- Should the modification be approved, an application will be made to the EPA for a variation to the Project EPL to ensure consistency with the Project Approval.



File Ref/No: ERG13-27/02/2013 – Minutes Meeting No: 013

## Part A - Meeting Details

Project T2E Project Code: 2E111

Day Mon ☐ Tues ☐ Wed ☒ Thurs ☐ Fri ☐ Sat ☐ Sun ☐ Date 27/02/2013

Subject Monthly Environmental Review Group – ERG #13

Start time 9:00am Close time 1:00pm

## Part B –Type of Event

|   |  |   |
|---|--|---|
| Phone call IN: <input type="checkbox"/>   | Phone call OUT: <input type="checkbox"/> | Meeting: <input checked="" type="checkbox"/> <span>Bangalow Compound</span> |
| Video conference <input type="checkbox"/> | Teleconference <input type="checkbox"/>  |   |

## Part C -People Involved/Present

| Name                 | Organisation | Phone No. / Email             |
|----------------------|--------------|-------------------------------|
| <b>Attendees:</b>    |              |                               |
| Matthew Saviana      | BPL          | msaviana@boulderstone.com.au  |
| Vince Newton         | BPL          | vnewton@boulderstone.com.au   |
| Chris McCallum       | BPL          | cmccallum@bauldertone.com.au  |
| Jessica O'Leary      | BPL          | joleary@boulderstone.com.au   |
| Mark Terei           | BPL          | mterei@boulderstone.com.au    |
| Kevin Sweeney (part) | BPL          | ksweeney@boulderstone.com.au  |
| Dave Packer          | BPL          | dpacker@boulderstone.com.au   |
| Ken Fyfe             | BPL          | kfyfe@boulderstone.com.au     |
| Claire Everett       | RMS          | claire.everett@rms.nsw.gov.au |
| Peter Borelli        | RMS          | peter.borelli@rms.nsw.gov.au  |
| Mark Woods           | RMS          | mark.woods@rms.nsw.gov.au     |
| James O'Connor       | RMS          | James.o'connor@rms.nsw.gov.au |
| Tammy Tribe          | RMS          | Tammie.tribe@rms.nsw.gov.au   |
| Dave Fleming         | Aurecon/RMS  | David/fleming@rms.nsw.gov.au  |
| Tim Gooley           | Aurecon/RMS  | timothy.gooley@rms.nsw.gov.au |

|               |                    |                                    |
|---------------|--------------------|------------------------------------|
| Dave Purdy    | Aurecon            | david.purdy@aurecon.com.au         |
| Anthony Acret | Rous Water         | anthony.acret@rouswater.nsw.gov.au |
| Craig Dunk    | EPA                | craig.dunk@epa.nsw.gov.au          |
| Chris Sheen   | EPA                | chris.sheen@epa.nsw.gov.au         |
| Brett Nudd    | EPA                | brett.nudd@epa.nsw.gov.au          |
| Peter Menzies | Soil Con.          | peter.menzies@scs.nsw.gov.au       |
| Bill Gardyne  | Environmental Rep. | bill@oxbow.com.au                  |

## Apologies:

|              |               |                             |
|--------------|---------------|-----------------------------|
| James Sakker | DPI Fisheries | james.sakker@dpi.nsw.gov.au |
|--------------|---------------|-----------------------------|

Recorded by : Jessica O'Leary

Checked  
and  
Issued:

Chris McCallum

Date: 21.03.2013

| Item | M i n u t e s  | Action     |            |
|------|--|------------|------------|
|      |  | by<br>Whom | by<br>When |
|      | <p>AGENDA:</p> <ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Apologies</li> <li>3. Previous Minutes               <ol style="list-style-type: none"> <li>a. Actions from previous minutes</li> <li>b. Acceptance of previous minutes</li> </ol> </li> <li>4. Construction update               <ol style="list-style-type: none"> <li>a. Rainfall update</li> <li>b. Sedimentation basins – progress</li> <li>c. Drainage Works in or adjacent to waterways – in progress and proposed</li> <li>d. Temporary creek crossings lookahead</li> <li>e. Working in Waterways Update - Current and Future</li> <li>f. Emigrant creek culvert extension</li> <li>g. Creek diversion at the fish farm</li> <li>h. Creek diversion at Ch27100</li> <li>i. Lomandra reuse</li> </ol> </li> <li>5. Design review / response</li> <li>6. Environmental update               <ol style="list-style-type: none"> <li>a. Ancillary facilities</li> <li>b. Use of recycled water update</li> <li>c. Daily water use at Byron and Minor Creeks, Lennox sand mine, farm dams</li> </ol> </li> <li>7. Proposed extension of hours modification</li> <li>8. Out of hours works</li> <li>9. Environmental monitoring results</li> <li>10. Blasting Update</li> <li>11. Ecological update</li> <li>12. Australia Day Long Weekend</li> <li>13. Flocculent</li> <li>14. Environmental complaints and according action</li> </ol> |            |            |



|            |   |   |                 |
|------------|---|---|-----------------|
| <b>1</b>   | <b>Previous Minutes – Actions from the previous minutes</b>   |   |                 |
| <b>1.1</b> | <p>EPA advised that the ERG slides alone, issued via ProjectCentre, do not give enough detail or explanation as many questions arose from reading the ERG slides for January without the assistance of the presentation. EPA would like to see more information in the slides themselves or supporting documents which provide more detail.</p> <p>BPL noted that many of the details which EPA would like to see in the slides has been previously presented in past ERGs and acknowledge that the current slides do assume some prior understanding of what has been previously delivered.</p> <p>BPL to issue the aquatic and terrestrial fauna capture/relocation/euthanasia registers, created by the respective ecologists, which contain the fauna management records. These records include dates, species, and locations of capture/release or ultimate fate of injured or introduced species.</p>   | <p><b>Note</b></p> <p><b>Note</b></p> <p><b>BPL</b></p>                     | <b>27.03.13</b> |
| <b>2</b>   | <b>Construction Update and Look-ahead</b>   |   |                 |
| <b>2.1</b> | <p><b>Rainfall Update</b></p> <p>BOM Cape Byron</p> <ul style="list-style-type: none"> <li>Jan 2013 - 217.6mm</li> <li>Feb 2013 - 292.0mm</li> <li>Total for Jan &amp; Feb <b>509.6mm</b></li> </ul> <p>BOM Ballina</p> <ul style="list-style-type: none"> <li>Jan 2013 - 348.6</li> <li>Feb 2013 - 437.4</li> <li>Total for Jan &amp; Feb <b>786mm</b></li> </ul> <p>T2E South recorded over <b>845mm</b> since 1.01.2013.</p>   | <b>Note</b>   |                 |
| <b>3</b>   | <b>Basins and Erosion and Sediment Controls</b>   |   |                 |
| <b>3.1</b> | Bill Gardyne – Inlets to the basins should be appropriately designed according to each basin not necessarily using the one size fits all direction given in G38. They do not all need to be rock lined but designed appropriately.  | <b>Note</b>   |                 |
| <b>3.2</b> | <p>BPL are proposing to delete a number of basins that are difficult to construct due to water flow, programming or location. Soil Con. and the designers are currently working through the proposals for RFIs.</p> <p>In requesting a variation to the licence for deletion or modification of basins, BPL needs to provide supporting documentation to the EPA including the basin location report, rationale, etc. to explain the reason for the adjustments, deletions or delays.</p> <p>RMS noted that SWTC states all areas would be covered by a basin. Expressed concern of erosion and sediment control in local management areas. It was also noted that there will always be areas that cannot be covered by a construction basin due to their relative geographical location.</p> <p>Soil Con advised that the Landcom blue book recommends that all water is to be directed through either a basin or appropriate ERSED controls and only an area expected to lose greater than 150m<sup>3</sup> per year of sediment requires protection by a basin. It also encourages innovation to be used in establishing good site controls to prevent sediment laden waters leaving site.</p> | <p><b>Note</b></p> <p><b>Note</b></p> <p><b>Note</b></p> <p><b>Note</b></p> |                 |

|     |  |  |   |
|-----|--|--|---|
|     | <p>These may be adjusted and improved where necessary.</p> <p>BPL expressed surprise that the approved basin design and ERSED management is still being discussed. It has been subject to a Soil and Water Workshop in January 2012 and through 4 stages of review and approval and is still generating comments from RMS.</p> <p>BPL proposed to undertake a second soil and water workshop to discuss and resolve the issues raised<br/>Key points the workshop will cover include adequacy of ERSED controls in local management areas, time frames for local management areas to be directed to a basin, and proposed deletion of basins.</p> <p>Brett Nudd - EPA states that systems and approaches as well as outcomes need to be key considerations.</p> <p>RMS - Areas not protected by a basin and basin deletion should be discussed as two separate issues.</p> <p>BPL noted that it is typical for foundation treatments for cross drainage to be established and fill placed in low lying areas before site water can be directed towards a basin.</p> <p>Post meeting note: The Soil and Water workshop was held on 11 March 2013.</p> | Note   |   |
| 3.3 | <p>EPA would like a Basin Overtopping Report and recommended the template used by the Ballina Bypass Alliance.</p> <p>Claire Everett to provide the report template to BPL for amendment.</p>  | CE/RMS   | 27.03.13  |
| 4   | <b>Alternative Products for Treatment of Basins</b>  |  |   |
| 4.1 | <p>The proposal to use alternative flocking agents, along with relevant information and methodology to be submitted to RMS and the EPA for approval, and to Rous Water &amp; the agencies for their review.</p> <p>EPA queried the toxicity of these products and will not accept the toxicity reports from the manufactures of the products. EPA would like to see LD<sub>50</sub> and toxicology reports produced from an independent NATA registered laboratory.</p> <p>A solid methodology would need to be developed to ensure there will be no overdosing of the basins.</p> <p>BPL to provide toxicology reports and methodology to the EPA.</p> <p>RMS advised real time testing ought to be conducted in life size test basins when seeking approval for use of alternative flocculants.</p> <p>Rous Water to provide information on use of AlchorGold to BPL.</p> <p>BPL interested in assisting RMS to finalise the RMS Flocculant Study by Karen Willows. Claire Everett to provide those details to BPL for follow-up.</p>  | <p>Note</p> <p>Note</p> <p>Note</p> <p>BPL</p> <p>Note</p> <p>Rous Water</p> <p>CE/RMS</p> | <p>27.03.13</p> <p>27.03.13</p> <p>27.03.13</p> |
| 4.2 | <p>Bill Gardyne demonstrated the flocculant HaloKlear on a sample taken from a basin located at William Flick Lane.</p>  |  |   |
| 5   | <b>Emigrant Creek Culvert Extension</b>  |  |   |
| 5.1 | <p>Emigrant Creek Culvert Extension<br/>Design review to include:</p>  | Note   |   |



|     |   |   |                                 |
|-----|---|---|---------------------------------|
|     | <ul style="list-style-type: none"> <li>• scour protection</li> <li>• new retaining wall and longer extension (larger scope)</li> <li>• work to be undertaken during dry/winter months</li> </ul>  |   |                                 |
| 5.2 | RMS - During works in this area the microbat flyway must be retained to approximately 1/3 the height of the culvert.  | Note  |                                 |
| 5.3 | <p>RMS - A contingency plan needs to be considered in the CWMS for these culvert extension works, catering for a 1 in 2 year ARI. A blinding slab will also need to be included and staging of the opening of the scour protection will need to be considered for use as a laydown area.</p> <p>BPL to submit Emigrant Creek culvert extension details to RMS for review in Approx. 1 month (Approx 27<sup>th</sup> of March).</p> <p>RTA Rep. suggests that a planning session be scheduled to discuss:</p> <ul style="list-style-type: none"> <li>• scope of works</li> <li>• ERSED</li> <li>• bats and the flyway</li> <li>• staging</li> </ul> <p>RMS indicated that the project has made prior commitments not to cross Emigrant Creek to access the culvert extension works. BPL to prepare proposal in light of the other options and present at the March 2013 ERG.</p> <p>Post meeting note: Planning Session was held on the 11<sup>th</sup> of March 2013.</p> | <p>Note</p> <p>BPL</p> <p>Note</p> <p>BPL</p> | <p>27.03.13</p> <p>27.03.13</p> |
| 6   | <b>Design Review Response</b>   |   |                                 |
| 6.1 | BPL issued the drawing distribution list to the agencies for their review & response. Please see '130304 Design Comment Closeout List.xlsx' attached.   | Note  |                                 |
| 7   | <b>Community Complaints</b>   |   |                                 |
| 7.1 | <p>EPA would like to be notified of the nature of complaints. What the complaint is regarding, what mitigations measures Boulderstone has employed to prevent it from reoccurring in the future and whether the complaint is compliant or not compliant to the EPL.</p> <p>This way if EPA receives a complaint they can proactively manage the complaint as it will not be the first time they will have heard about the issue. Ballina Bypass had a good 1 page report template for this purpose.</p> <p>Claire Everett to provide the report template to BPL for amendment.</p>  | <p>Note</p> <p>Note</p> <p>CE/RMS</p>         | <p>27.03.13</p>                 |
| 8   | <b>Consistency Assessment</b>   |   |                                 |
| 8.1 | <p>BPL has prepared an assessment for extended working hours and if approved by DoP would intend to seek approval from the EPA to amend the EPL accordingly.</p> <p>EPA acknowledges the requirement for additional hours and advises that a comprehensive community consultation process should be implemented so that the community understand what the total accumulative effects/impacts will be to them. If BPL goes in with a clear strategy the community will be much more receptive and it is important not to lose the relationship.</p> <p>The EPA suggested that the provisions of the Project Environment Protection Licence would not necessarily need to be amended to accommodate for the proposed modification to working hours. The EPA also suggested that the Project should apply the learning's from the Pacific Highway Upgrade – Banora Point through making the community aware of the potential impacts</p>                                     | Note  |                                 |

|            |  |                                      |                                |
|------------|--|--------------------------------------|--------------------------------|
|            | <p>of the proposed modification prior to its implementation.</p> <p>No other comments were received from any other ERG member agencies in attendance.</p>  |                                      |                                |
| <b>8.3</b> | <p>BPL asked of the agencies if there were any additional comments regarding the minor compound assessments</p> <p>No comments were recorded.</p>  | <b>Note</b>                          |                                |
| <b>9</b>   | <b>Monthly Fauna Capture/Relocation Record</b>   |                                      |                                |
| <b>9.1</b> | Chris Sheen to look into koala friendly barriers and provide findings/previous learning's to BPL.  | <b>EPA</b>                           |                                |
| <b>9.2</b> | RMS - The Road kill Register need only report on native fauna species.   | <b>BPL</b>                           | <b>27.03.13</b>                |
| <b>9.3</b> | <p>Aquatic Ecology and terrestrial fauna data needs to be split into areas where fauna has come from and their fate i.e. relocated or euthanised.</p> <p>Please also see meeting minute 1.1 above.</p> <p>The agencies would like to see the total tally register from Dave H and Mick Howland to date. This will be issued with the Meeting Minutes Follow Up before the April 13 ERG. These will include detailed information requested above, so that not all details will need to be repeated in the ERG slides.</p>   | <p><b>Note</b></p> <p><b>BPL</b></p> | <p></p> <p><b>27.03.13</b></p> |
| <b>9.4</b> | <p>Aquatic species capture/relocated between 06.12.12 – 18.02.13</p> <ul style="list-style-type: none"> <li>• Spiny crayfish (8)</li> <li>• Duboulays rainbowfish (289)</li> <li>• Dwarf flatheaded gudgeon (376)</li> <li>• Eel-tailed catfish (5)</li> <li>• Long-finned eel (75)</li> <li>• Short-finned eel (1)</li> <li>• Striped gudgeon (10)</li> <li>• Glass shrimp (2149)</li> <li>• Short necked turtle (2)</li> <li>• Macrobrachi (1)</li> </ul> <p>Since the beginning of the project 17 aquatic species and a total of approximately 82000 individual aquatic animals or tadpoles have been relocated from the projects creek lines to directly downstream of the works area. These numbers do not include introduced species which have been euthanised.</p>   | <b>Note</b>                          |                                |
| <b>9.5</b> | <p>Terrestrial species captured/relocated between 06.12.12 – 18.02.13.</p> <ul style="list-style-type: none"> <li>• Carpet python (2) <i>Morelia Spilota variegata</i></li> <li>• Eastern water dragon (1) <i>Physignathus lesueurii</i></li> <li>• Red-bellied black snake (3) <i>Pseudechis porphyriacus</i></li> <li>• Eastern brown snake (2) <i>Pseudonaja textilis</i></li> <li>• Eastern Brown Snake (2) <i>Pseudonaja textilis</i></li> <li>• Giant Barred Frog gravid female (1) <i>Myxophyes iteratus</i></li> <li>• Rough Scaled Snake (1) <i>Pseudechis porphyriacus</i></li> <li>• Striped March Frog (6) <i>Lymodynastes peroni</i></li> <li>• Ringtail Possum (1) <i>Pseudocheirus peregrinus</i></li> <li>• Dwarf tree frog (1) <i>Litoria fallax</i></li> <li>• Saw-shelled turtle (1) <i>Elseya latisternum</i></li> <li>• Bandy Bandy snake (1) <i>Vermicella annulata</i></li> </ul> <p>Since the beginning of the Project 23 species with a total of 85 individual animals have been captured and relocated from the project alignment.</p> | <b>Note</b>                          |                                |



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**Part E - Meeting Schedule**

| Meeting No. | Date :                           | Time    | Venue                          |
|-------------|----------------------------------|---------|--------------------------------|
| ERG14       | Wednesday 27 <sup>th</sup> March | 09:00am | Bangalow Compound Meeting Room |
| ERG15       | Wednesday 24 <sup>th</sup> April | 09:00am | Bangalow Compound Meeting Room |
| ERG16       | Wednesday 22 <sup>nd</sup> May   | 09:00am | Bangalow Compound Meeting Room |
| ERG17       | Wednesday 26 <sup>th</sup> June  | 09:00am | Bangalow Compound Meeting Room |

**Part F – Mandatory PPE Required for Site Visit**

Full PPE to be worn at all times, as per attached BPL schedule.

**Part G – Enquiries**

Kenneth Fyfe  
0466 771 256  
[kfyfe@boulderstone.com.au](mailto:kfyfe@boulderstone.com.au)

# ENVIRONMENTAL REVIEW GROUP



BAULDERSTONE

## ERG19 –

## Wednesday 28<sup>th</sup> August 2013



# ENVIRONMENTAL REVIEW GROUP AGENDA

## 28<sup>th</sup> August 2013



BAULDERSTONE

1. Construction update
  - a. Sedimentation basins completed – progress
  - b. Drainage works in or adjacent to waterways
  - c. Local Management Areas - update
2. Design review / response
  - a. Culverts inlets/outlets
3. Environmental Update
  - a. Minor ancillary facilities
  - b. Conditions of Approval - Modification
  - c. Use of recycled and extracted water
  - d. Out of Hours works
4. Environmental monitoring
5. Ecological update
6. Environmental complaints
7. Weed monitoring report

# ENVIRONMENTAL UPDATE

## 3b. Conditions of Approval Modification - Extended Hours



BAULDERSTONE

RMS is seeking to modify the current approved construction hours for the Project as detailed in Condition 2.12 of the Project Approval as follows (proposed modification is shown in italics):

Construction activities associated with the project shall only be undertaken during the following hours:

- (a) ~~7:00am to 6:00pm~~ *6:30am to 7:00pm*, Mondays to Fridays, inclusive;
- ~~(b) 8:00am to 1:00pm~~ *7:00am to 4:00pm* on Saturdays; and
- (c) at no time on Sundays or public holidays.

~~Notwithstanding the above, construction activities are permitted between the hours of 7:00am and 4:00pm on Saturdays between chainages 134810 and 136000, and including the operation of the Cumbalum and Ross Lane ancillary facilities for Stage 1.~~



# ENVIRONMENTAL UPDATE

## 3b. Conditions of Approval Modification - Extended Hours



BAULDERSTONE

- The fundamental benefit of the proposal is that the outcomes of the Tintenbar to Ewingsdale Project could be experienced sooner than would otherwise be achieved.
- Consultation with the local community is recognised as the lynch pin to ensure the proposal to extend construction hours is cognisant of community issues and identifies potential mitigation strategies. As such, a Communications Strategy for Extended Work Hours has been prepared and implemented.
- It can be noted from the consultation undertaken that the majority (85 per cent) of respondents to the proposal have no objection. In relation to objections received, potential impacts in relation to these objections have been assessed in the development of the modification report. The report found that the implementation of the measures contained within the CEMP and Sub-Plans, combined with the measures detailed within the report could be implemented to effectively manage potential impacts.

# ENVIRONMENTAL UPDATE

## 3b. Conditions of Approval Modification - Extended Hours



BAULDERSTONE

- Modification report submitted to ERG on 14/08/2013.
- Any objections/comments?



ERG File  
Ref/No:

ERG19-  
28/08/2013 –  
Minutes

Meeting No:

019

## Part A - Meeting Details

Project

T2E

Project Code:

2E111

Day

Mon  
☐

Tues  
☐

Wed  
☒

Thurs  
☐

Fri  
☐

Sat  
☐

Sun  
☐

Date

28/08/2013

Subject

Monthly Environmental Review Group – ERG #19

Start time

9:15am

Close time

11:00pm

## Part B - Type of Event

Phone call IN: ☐

Phone call OUT: ☐

Meeting: ☒

Bangalow Compound

Video conference ☐

Teleconference ☐

## Part C - People Involved/Present

| Name              | Organisation                 | Phone No. / Email                  |
|-------------------|------------------------------|------------------------------------|
| <b>Attendees:</b> |                              |                                    |
| Chris McCallum    | BPL                          | cmccallum@boulderstone.com.au      |
| Jessica O'Leary   | BPL                          | joleary@boulderstone.com.au        |
| Ken Fyfe          | BPL                          | kfyfe@boulderstone.com.au          |
| Adam Kostrz       | BPL                          | akostrz@boulderstone.com.au        |
| Kieran Metcalfe   | BPL                          | kmetcalfe@boulderstone.com.au      |
| Peter Borelli     | RMS                          | peter.borelli@rms.nsw.gov.au       |
| Claire Everett    | RMS                          | claire.everett@rms.nsw.gov.au      |
| Mark Woods        | RMS                          | mark.woods@rms.nsw.gov.au          |
| Tim Gooley        | Aurecon/RMS                  | timothy.gooley@rms.nsw.gov.au      |
| David Purdy       | Aurecon/RMS                  | david.purdy@aurongroup.com         |
| Anthony Acret     | Rous Water                   | anthony.acret@rouswater.nsw.gov.au |
| Craig Dunk        | EPA                          | craig.dunk@epa.nsw.gov.au          |
| Ian Gaskell       | EPA                          | iang@epa.nsw.gov.au                |
| James Sakker      | DPI Fisheries                | james.sakker@dpi.nsw.gov.au        |
| Peter Menzies     | Soil Conservation Service    | peter.menzies@scs.nsw.gov.au       |
| Bill Gardyne      | Environmental Representative | bill@oxbow.com.au                  |

Recorded by :

Jessica O'Leary

Checked  
and Issued:

Chris McCallum

Date:

06/09/13

| Item     | Minutes  | Action  |                 |
|----------|--|---|-----------------|
|          |  | by Whom   | by When         |
|          | <b>AGENDA:</b> <ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Apologies</li> <li>3. Previous Minutes               <ol style="list-style-type: none"> <li>a. Actions from previous minutes</li> <li>b. Acceptance of previous minutes</li> </ol> </li> <li>4. Construction update               <ol style="list-style-type: none"> <li>a. Sedimentation Basins – progress</li> <li>b. Drainage works in or adjacent to waterways</li> <li>c. Local Management Areas - Update</li> </ol> </li> <li>5. Design review / response               <ol style="list-style-type: none"> <li>a. Culverts inlets/outlets</li> </ol> </li> <li>6. Environmental Update               <ol style="list-style-type: none"> <li>a. Minor ancillary facilities</li> <li>a. Conditions of Approval - Modification</li> <li>b. Use of recycled and extracted water</li> <li>c. Out of Hours works</li> <li>d. Environmental monitoring</li> <li>e. Ecological update</li> <li>f. Environmental complaints</li> <li>g. Weed monitoring register</li> </ol> </li> </ol> |   |                 |
| <b>1</b> | <b>Previous Minutes</b>  |   |                 |
| 1.2      | Previous Minutes from ERG18 July 2013 were accepted without further comment.   | <b>Note</b>   |                 |
| <b>2</b> | <b>Basin Status Report</b>   |   |                 |
| 2.1      | The Basin status report is to be updated and sent through to the EPA.  | <b>BPL</b>  | <b>25/09/13</b> |
| 2.2      | Basin 15000 is still under commitment to be built.   | <b>Note</b>   |                 |
|          | Basin 18300 in the Southern Zone was proposed to be deleted and now an RFI has been submitted to move the basin but not delete it.   | <b>Note</b>   |                 |
| 2.2      | <p>EPA queries whether T2E is compliant with the licence regarding commissioning and decommissioning of the basins within notification timeframes. Advising that we must be compliant with the licence conditions.</p> <p>EPA is happy for the basin status report to be the forum for notification as long as it is clearly stated which basins are being commissioned and decommissioned.</p> <ul style="list-style-type: none"> <li>• 7 days notification to commission a basin and 21 days to decommission.</li> </ul> <p>It is imperative that the decommissioning of a basin is notified within the correct time frame.</p> <p>BPL Response – Basin Location Reports are updated as required. The status column lists the commissioned status of the basin.</p>  | <b>Note</b><br><br><br><br><br><br><br><br><br><br><b>Note</b><br><br><br><br><b>Note</b> |                 |
| 2.3      | RMS would like to be informed of the updates to the repositioning of Basin 26400 to CH 26100.  | <b>Note</b>   |                 |
|          | BPL to send through the details to RMS.  | <b>BPL</b>  | <b>25/09/13</b> |
| <b>3</b> | <b>Local Management Areas</b>  |   |                 |
| 3.1      | Soil Con asks that the agencies be aware that due to the current long periods of fine weather, production has become a key focus of the construction team to ensure high risk and critical path activities are progressed closer towards completion before the rainy season returns to the area. Be assured that plans are in place and discussions have been had with all zone superintendents and foremen regarding the plan to reinstate all ERSED controls as per the ERSED plans at the forecast of rain.   | <b>Note</b>   |                 |
| 3.2      | Fish Farm area site water is now going to the basin and the north side of the arch is still a LMA. BPL states that the exposure area has been halved and are starting to   | <b>Note</b>   |                 |



|          |  |                |          |
|----------|--|----------------|----------|
|          | separate the catchments and sending water to the basins progressively.   |                |          |
| 3.3      | Fill 2 is expected to be locally managed for some to come.   | Note           |          |
| 3.4      | Basin 27650 cannot be deleted as the water from the WQTP is sent to this basin.  | Note           |          |
| 3.5      | Since Tender time the length slope calculations are changing as cuts/fills are starting to flatten out the levels reducing the risk of significant runoff and erosion.   | Note           |          |
| 3.6      | EPA query the Watchorn's Pasture Improvement works.  | Note           |          |
|          | Soil Con reiterates that this area is covered by basin 27300.  | Note           |          |
| 3.7      | Rous Water would like the basins which are to be turned into operational basins to be presented during ERG20. Also which basins will be wet or dry basins.   | Note           |          |
|          | BPL to include this in the next Agenda.  | BPL            | 25/09/13 |
| <b>4</b> | <b>Design Comment Closeout</b>   |                |          |
| 4.1      | BPLs culvert inlet/outlet treatment concept drawings have been accepted by the agencies.   | Note           |          |
| 4.2      | Rous Water queries what the status for retro fitting for the culvert and creek diversion treatments that have already been installed.  | Note           |          |
|          | BPL responds saying that a work team have been toolboxed on expectations and works have first started to install the design at the Fish Farm Creek diversion through the BEBO. If after the inspection the agencies find the works acceptable then the process will be applied to the other culverts and creek diversions. | Note           |          |
|          | The plants to revegetate the Fish Farm creek diversion have been purchased and BPL hopes to have them planted by the next ERG inspection in September.   | Note           |          |
| <b>5</b> | <b>Minor Ancillary Facilities</b>  |                |          |
| 5.1      | The Minor Creek Concrete Batch plant average production rate is discussed and it is noted that the average production rate will not be the same as the peak rate when in full production.  | Note           |          |
| 5.2      | Are there any further comments from the agencies regarding the batch plant proposal?   |                |          |
|          | Fisheries have no further comment.   | Note           |          |
|          | Comments are yet to be received from the EPA and Rous Water. Comments to be sent from these Agency members soon.   | EPA/Rous Water | 25/09/13 |
| 5.3      | BPL to send an email requesting the agencies comment on the proposed batch plant. BPL is to provide a diagram of the proposed batch plant layout within this email. All other relevant information is included within the document that BPL requires comment on.   |                |          |
|          | Post Meeting Note: The reminder email and batch plant layout diagram was sent to the agencies 29/08/2013.  | Note           |          |
|          | RMS requests that the agencies send an email clearly stating their opinion of no comment if that is their position.  | Note           |          |
| <b>6</b> | <b>Extended Hours Modification</b>   |                |          |
| 6.1      | BPLs understanding from the community feedback are that they would prefer to see the project finished as soon as possible and for us to demobilise from the area.  | Note           |          |
| 6.2      | BPL proposed Out of Hours work from 6:30am to 10:30pm or 24 hours 6 days a week at Emigrant Creek RE Wall subject to community consultation. The intent is to have these high risk works completed prior to the return of the rainy season.  | Note           |          |
| <b>7</b> | <b>Use of Recycled Water</b>   |                |          |
| 7.1      | The agencies ask how BPL is monitoring the creek water extraction volumes in relation to the office of water budget.   | Note           |          |
|          | BPL advises that although the local Water Sharing Plan does not apply to the Project, BPL will work in accordance with the Plan. The Plan requires monitoring against the gauge at Eltham. BPL tracks water usage through detailed volume logging sheets. Water level markers for draw down are also monitored closely.    | Note           |          |
| 7.2      | The main reason for not using the Byron WTP is too far away from the areas requiring dust suppression.   | Note           |          |
| 7.3      | Fisheries remind that during dry times this is the most sensitive time for the waterways as they are under seasonal pressure at this time.   | Note           |          |

|           |  |      |          |
|-----------|--|------|----------|
|           | Fisheries suggest keeping the basins over capacity to retain water for construction.   | Note |          |
|           | BPL advised that many of the basins have been oversized for this reason.   | Note |          |
| 7.4       | Soil Con can recalculate the basin capacity requirements and remark the basins in relation to catchment size to ensure that the maximum amount of water can be retained.   | Note |          |
|           | Now is a good time to muck out basins of sediment to restore maximum capacity to the basins to retain every last drop.   | Note |          |
| <b>8</b>  | <b>Programmed Out of Hours</b>   |      |          |
| 8.1       | EPA was happy that BPL notified the Pollution Line in advance that the night works were occurring. This was very helpful to their rostering system that everyone was informed prior to the activity commencing.  |      |          |
| 8.2       | The Chamber of Commerce and 2 x CIS had no objections regarding the Bangalow interchange. A good solution has been achieved to remove the bridge; the proposed method of removal will be quicker and quieter for the residents.  | Note |          |
| <b>9</b>  | <b>Dust</b>  |      |          |
| 9.1       | Dust Deposition Gauge #18 needs a perch installed as the birds are now affecting the results.  | BPL  | 25/09/13 |
|           | BPL to install another bird perch in this location.  |      |          |
| 9.2       | Bottle number 23 needs to be named as 23A on ERG presentation and all internal records.  |      |          |
| 9.3       | Dust is being generated at Gate 26. RMS asks what can be done here.  | Note |          |
|           | Fisheries, EPA and Aurecon are suggesting that the access be sealed with bitumen which should greatly reduce the creation of dust.   | Note |          |
|           | Gate 26 is already sealed with bitumen. Additional mitigation measures were discussed onsite. BPL to report during the next Inspection.  | Note |          |
| 9.4       | EPA suggests 'Pilcitus' which is a dust control product that we could consider using.  | Note |          |
| 9.5       | RMS states that PM10 monitoring on St. Helena may need to be ongoing until further notice.   | Note |          |
| <b>10</b> | <b>Noise</b>   |      |          |
| 10.1      | EPA asks how BPL is managing noise affected receivers once an exceedance contributable to construction has been recorded.  | Note |          |
|           | BPL to refer back to the CN&VMSP mitigations measures to manage noise in areas where exceedances are recorded.   | Note |          |
| <b>11</b> | <b>Tunnel Groundwater</b>  |      |          |
| 11.1      | The agencies would like to see the tunnel groundwater management added to ERG20 Agenda.  | Note |          |
|           | BPL to include this in the upcoming agenda.  | BPL  | 25/09/13 |
| <b>12</b> | <b>Weed Management</b>   |      |          |
| 12.1      | Weed management is to be undertaken by the landscaping contractors and EEC maintenance will be undertaken by Envite.   | Note |          |
| 12.2      | EPA queries the status of the Landscape Plan and seed species mix.   | Note |          |
|           | BPL response – these documents have both gone back to CM+ for review.  | Note |          |
| <b>13</b> | <b>Miscellaneous Meeting Minutes</b>   |      |          |
| 13.1      | Fisheries – fish migration is going to kick off again when the rain returns please consider the management of: <ul style="list-style-type: none"> <li>silt curtains need to be removed when not needed</li> <li>pumps are to be screened, and</li> <li>hydrocarbon booms are to be in place</li> </ul> | Note |          |
| <b>14</b> | <b>Monthly Fauna Capture/Relocation Record</b>   |      |          |
| 14.1      | Terrestrial fauna capture/relocation - project wide <ul style="list-style-type: none"> <li>Eastern small-eyed snake (2) <i>Rhinoplocephalus nigrescens</i></li> <li>Eastern brown snake <i>Pseudonaja textilis</i></li> </ul>  | Note |          |



|      |   |      |  |
|------|---|------|--|
|      | <ul style="list-style-type: none"> <li>• Carpet python <i>Morelia spilota variegata</i></li> <li>• Eastern water dragon <i>Physignathus lesueurii</i></li> <li>• Green tree snake <i>Dendrelaphis punctulata</i></li> <li>• Red bellied black snake <i>Pseudechis porphyriacus</i></li> </ul>   |      |  |
| 14.2 | <p>These species were captured and relocated downstream from 4 locations: Jarrett's Creek, Fish Farm Creek Diversion and Culverts 23500 &amp; 23700.</p> <p>Aquatic fauna capture/relocation - project wide</p> <ul style="list-style-type: none"> <li>• Spiny Crayfish <i>Euastacus species</i></li> <li>• Crayfish <i>Cherax species</i></li> <li>• Australian Smelt <i>Retropinna semoni</i></li> <li>• Coks Gudgeon <i>Gobiomorphus coxii</i></li> <li>• Crimson-spotted Rainbowfish <i>Melanotaenia duboulayi</i></li> <li>• Eel-tailed Catfish <i>Tandanus tandanus</i></li> <li>• Flatheaded Gudgeon <i>Philypnodon grandiceps</i></li> <li>• Long-finned Eel <i>Anguilla reinhardtii</i></li> <li>• Olive Perchlet <i>Ambassis agassizii</i></li> <li>• Ornate Rainbowfish <i>Rhadinocentrus ornatus</i></li> <li>• Striped Gudgeon <i>Gobiomorphus australis</i></li> <li>• Glass Shrimp <i>Paratya australiensis</i></li> <li>• Macrobrachium <i>Macrobrachium spp.</i></li> <li>• Saw-shelled Turtle <i>Myuchelys latisternum</i></li> <li>• Riffle Shrimp <i>Australatya Striolata</i></li> </ul> <p>Mosquito fish were the only introduced species captured in these locations and were subsequently euthanised.</p> | Note |  |

## Part E - Meeting Schedule

| Meeting No. | Date :                               | Time    | Venue                          |
|-------------|--------------------------------------|---------|--------------------------------|
| ERG20       | Wednesday 25 <sup>th</sup> September | 09:00am | Bangalow Compound Meeting Room |
| ERG21       | Wednesday 23 <sup>rd</sup> October   | 09:00am | Bangalow Compound Meeting Room |
| ERG22       | Wednesday 27 <sup>th</sup> November  | 09:00am | Bangalow Compound Meeting Room |
| ERG23       | Wednesday 28 <sup>th</sup> December  | 09:00am | Bangalow Compound Meeting Room |

## Part F – Mandatory PPE Required for Site Visit

Full PPE to be worn at all times, as per attached BPL schedule.

## Part G – Enquiries

Kenneth Fyfe

0466 771 256

[kfyfe@boulderstone.com.au](mailto:kfyfe@boulderstone.com.au)

## Kieran Metcalfe

---

**Subject:** RE: Extended hours Modification Report

**From:** Craig Dunk [<mailto:Craig.Dunk@epa.nsw.gov.au>]  
**Sent:** Tuesday, 3 September 2013 9:28 AM  
**To:** Chris McCallum  
**Cc:** Robert Donohoe; Peter Borrelli; Michael Young; Ian Gaskell  
**Subject:** RE: Extended hours Modification Report

Hi Chris,

In my haste to get a response out to you yesterday I did not include the comments provided by Ian Gaskell in relation to ecological aspects of the proposed extended hours. The comments provided by Ian follow:

Craig, I have had a quick review of the proposed document and note the environmental assessment does not assess the impact of extended works hours on the Large-footed Myotis (*Myotis adversus*) roost site associated with Emigrant Creek. In this respect, Ecological Australia prepared a microbat survey report for the RTA to satisfy the Department of Planning's Condition of Approval 2.5. The report included, a range of management actions aimed at ensuring road construction had a minimal impact on the species. Section 9 of the report contains a range of construction mitigation measures which include, exclusion zones, seasonal closures, restricted work activities and altered scheduling. The information submitted by Baulderstone fails to identify how the project will comply with the requirements of the abovementioned plan. However, it is considered that unrestricted work activities within close proximity to the roost site have the potential to have a significant adverse impact. Consequently, the application is required to be updated to demonstrate compliance with the bat management strategy.

**Regards**  
**Ian Gaskell**

Senior Threatened Species Officer | **NSW Environment Protection Authority** | ☎: (02) 66402520 Mob: 0408634153 ||✉: [Ian.Gaskell@epa.nsw.gov.au](mailto:Ian.Gaskell@epa.nsw.gov.au)

Regards

Craig Dunk  
Regional operations Officer | **NSW Environment Protection Authority** |  
☎: (02) 6640 2514 | Mobile ☎: 0427 237 154 | ☎: (02) 6640 2539 |✉: [Craig.Dunk@epa.nsw.gov.au](mailto:Craig.Dunk@epa.nsw.gov.au)

---

**From:** Dunk Craig  
**Sent:** Monday, 2 September 2013 2:14 PM  
**To:** 'Chris McCallum'  
**Cc:** Donohoe Robert; Peter Borrelli; 'Michael Young'  
**Subject:** RE: Extended hours Modification Report

Hi Chris,

The EPA appreciates the opportunity to review the Modification Request for an Extension of Approved Working Hours provided by the Tintenbar to Ewingsdale Pacific Highway Upgrade project.

The EPA understands that the document was developed to assess the benefits and potential impacts of extending the standard approved working hours by ½ an hour in the morning and 1 hour in the evening Monday to Friday and for an additional 1 hour in the morning and 3 hours in the afternoon on Saturdays.

The standard working hours under the Interim Construction Noise Guidelines (ICNG) and standard Environment Protection Licence (EPL) conditions are as follows:

- 7:00am to 6:00pm Monday to Friday; and



- 8:00am to 1:00pm Saturday.

The proposed extended hours are as follows:

- 6:30am to 7:00pm Monday to Friday; and
- 7:00am to 4:00pm Saturday.

The modification request refers to section 2.3 of the ICGN which identifies 5 categories of work that that may be undertaken outside of the recommended standard hours and that two of these categories are considered to be relevant and support the proposal. The two categories are:

- Public infrastructure works that shorten the length of the project and are supported by the affected community (Note – it does not specify a % of the community or the whole community);
- Works where the proponent demonstrates and justifies a need to operate outside of the recommended hours (Note – the need identified is to shorten the length of the project by an estimated 2 ½ months).

The ICGN clarifies that in the last two categories (those referred to above) that the proponent should provide the relevant authority with clear justification for reasons other than convenience, such as to sustain operational integrity of road, rail and utility networks. This need is typically based on a requirement to sustain the operational integrity of public infrastructure, as works to restore operation of the infrastructure provide benefit to the greater community.

The EPA notes that the benefits listed in table one of the modification request which include, a safer section of highway, greater transport efficiency, supporting growth etc...are genuine long term benefits but do not support the likely cumulative affects to the community over an estimated 24 month construction period.

The modification request identifies impacts including:

- Longer impacts of standard construction activities each week and less downtime (respite) for residents each week over the next 24 months;
- That the extension of standard hours plus additional out of hours works may cause cumulative effects especially with regard to dust, noise and vibration impacts;
- The extension of hours into the evening and night time periods will result in reducing the relevant noise goals and increasing the number of exceedances of the noise level goals attributable to construction.
- The extension of Saturday hours would result in the completion of the project approximately 1 month sooner, but benefit would be outweighed by the impacts that the hours would have on the community and project personnel (scenario 3 page 16).

And states that 85% of respondents (301 of 2439 stakeholders) to the consultation have no objection to the proposal.

The EPA does not support the wholesale extension of working hours and Baulderstone should look for opportunities to undertake works in accordance with the existing conditions of the EPL which allow works to be completed in the following ways:

1. During standard construction hours across the entire site.

#### L4.1 Standard construction hours

Unless otherwise specified by any other condition of this licence, all construction activities are:

- a) restricted to between the hours of 7:00am and 6:00pm Monday to Friday;
- b) restricted to between the hours of 8:00am and 1:00pm Saturday; and
- c) not to be undertaken on Sundays or Public Holidays.

2. In accordance with the exemptions to standard hours.

#### L4.2 Exemptions to standard construction hours

The three categories of works that may be undertaken outside the standard hours of operation permitted by Condition L4.1 are:

- a) the delivery of oversized plant or structures that police or other authorised authorities determine require special arrangements to transport along public roads;
- b) emergency work to avoid the loss of lives or property, or to prevent environmental harm;

c) works that are not more than 5 dB(A) over the rating background level at the nearest noise sensitive receiver as assessed by acoustic investigation.

3. In accordance with the condition which allows agreements to be reached with affected receivers.

**L4.3 Works agreed outside of standard construction hours**

The licensee may undertake works outside of standard construction hours if agreement between the licensee and representatives of potentially affected noise sensitive receivers has been reached. Any agreement(s) between the licensee and the potentially affected noise sensitive receivers must be recorded in writing and a copy of the agreement(s) kept on the premises by the licensee for the duration of this licence.

4. Or by offering alternative accommodation for the duration of the works, which results in there not being a sensitive receiver for the duration of the works.

By identifying sections of the project where there are few sensitive receivers, where receivers are at significant distances from the activities, or where agreements can be reached (as has been the case at this and other projects) a lot of additional work can be undertaken without undue/unreasonable and unjustified impacts on members of the community who value their lifestyle and/or opportunity to have respite from the construction works necessary to complete this project.

Please give me a call if you would like to discuss this further.

Regards

Craig Dunk

Regional operations Officer | **NSW Environment Protection Authority** |

☎: (02) 6640 2514 | Mobile ☎: 0427 237 154 | 📠: (02) 6640 2539 | ✉: [Craig.Dunk@epa.nsw.gov.au](mailto:Craig.Dunk@epa.nsw.gov.au)

---

**From:** Chris McCallum [<mailto:Chris.McCallum@lendlease.com>]

**Sent:** Thursday, 29 August 2013 3:48 PM

**To:** [james.sakker@industry.nsw.gov.au](mailto:james.sakker@industry.nsw.gov.au); Dunk Craig; Gaskell Ian; Anthony Acret; Bill Gardyne; Michael King; Wes Johnstone

**Cc:** Peter Borrelli; Claire Everett; Timothy Gooley ([Timothy.Gooley@aurecongroup.com](mailto:Timothy.Gooley@aurecongroup.com)); David Purdy; Mark Woods

**Subject:** Extended hours Modification Report

Folks,

Further to the discussion at the ERG meeting yesterday, would you confirm by reply email that you have no further comment on the Extended Hours Modification Report as it will facilitate the approval process through Department of Planning.

Let me know if you require any further information

Thanks

**Chris McCallum** | Environmental Manager | Pacific Highway Upgrade – Tintenbar to Ewingsdale | Engineering | **Lend Lease**

Construction & Infrastructure

Gate 17, Bangalow Road, Bangalow, NSW 2479, Australia

T +61 6618 6147 | F +61 6618 6101 | M +61 408 264 164

[Chris.McCallum@lendlease.com](mailto:Chris.McCallum@lendlease.com) | [www.lendlease.com](http://www.lendlease.com)



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**From:** [Chris McCallum](#)  
**To:** [Kieran Metcalfe](#)  
**Subject:** FW: Extended hours Modification Report  
**Date:** Wednesday, 4 September 2013 9:01:30 AM

---

FYI

**Chris McCallum** | Environmental Manager | Pacific Highway Upgrade – Tintenbar to Ewingsdale | Engineering | [Lend Lease](#)

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[Chris.McCallum@lendlease.com](mailto:Chris.McCallum@lendlease.com) | [www.lendlease.com](http://www.lendlease.com)

---

**From:** Bill Gardyne  
**Sent:** Wednesday, 4 September 2013 8:58 AM  
**To:** Chris McCallum  
**Subject:** Re: Extended hours Modification Report

Hi Chris,

I have no comments

Regards,  
Bill

**Bill Gardyne** MEnv Man, FEIANZ

Principal Environmental Consultant

Oxbow Consulting Pty Ltd  
Suite 3, 247 Bayview St, Runaway Bay  
PO Box 1009,

Runaway Bay Qld 4216  
P 07 5564 2049  
M 0414 936 639

On 29/08/2013, at 3:47 PM, Chris McCallum <[Chris.McCallum@lendlease.com](mailto:Chris.McCallum@lendlease.com)> wrote:

Folks,

Further to the discussion at the ERG meeting yesterday, would you confirm by reply email that you have no further comment on the Extended Hours Modification Report as it will facilitate the approval process through Department of Planning.

Let me know if you require any further information

Thanks

Chris McCallum | Environmental Manager | Pacific Highway Upgrade - Tintenbar to Ewingsdale | Engineering | Lend Lease  
Construction & Infrastructure



Gate 17, Bangalow Road, Bangalow, NSW 2479, Australia  
T +61 6618 6147 | F +61 6618 6101 | M +61 408 264 164  
[Chris.McCallum@lendlease.com](mailto:Chris.McCallum@lendlease.com) <mailto:Chris.McCallum@lendlease.com%20> |  
[www.lendlease.com](http://www.lendlease.com) <http://www.lendlease.com/>

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**From:** [Chris McCallum](#)  
**To:** [Kieran Metcalfe](#)  
**Subject:** FW: Extended hours Modification Report  
**Date:** Tuesday, 10 September 2013 8:27:44 AM

---

FYI

**Chris McCallum | Environmental Manager | Pacific Highway Upgrade – Tintenbar to Ewingsdale | Engineering | Lend Lease**

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---

**From:** Wes Johnstone  
**Sent:** Tuesday, 10 September 2013 8:27 AM  
**To:** Chris McCallum  
**Subject:** RE: Extended hours Modification Report

Chris

Sorry for the delay. Council has no comment on the Extended Hours Modification Report.

Regards

**Wes Johnstone | Project Engineer - Works**  
Civil Services  
Ballina Shire Council

[www.ballina.nsw.gov.au](http://www.ballina.nsw.gov.au)

---

**p:** (02) 6686 1229 | **f:** (02) 6686 9514 | **m:** 0428864443

---

**From:** Chris McCallum [<mailto:Chris.McCallum@lendlease.com>]  
**Sent:** Thursday, 29 August 2013 3:48 PM  
**To:** [james.sakker@industry.nsw.gov.au](mailto:james.sakker@industry.nsw.gov.au); Dunk Craig ([Craig.Dunk@epa.nsw.gov.au](mailto:Craig.Dunk@epa.nsw.gov.au)); [Ian.Gaskell@epa.nsw.gov.au](mailto:Ian.Gaskell@epa.nsw.gov.au); Anthony Acret; Bill Gardyne; Michael King; Wes Johnstone  
**Cc:** Peter Borrelli; Claire Everett; Timothy Gooley ([Timothy.Gooley@aurecongroup.com](mailto:Timothy.Gooley@aurecongroup.com)); David Purdy; Mark Woods  
**Subject:** Extended hours Modification Report

Folks,

Further to the discussion at the ERG meeting yesterday, would you confirm by reply email that you have no further comment on the Extended Hours Modification Report as it will facilitate the approval process through Department of Planning.

Let me know if you require any further information



Thanks

**Chris McCallum** | Environmental Manager | Pacific Highway Upgrade – Tintenbar to Ewingsdale | Engineering | **Lend Lease**

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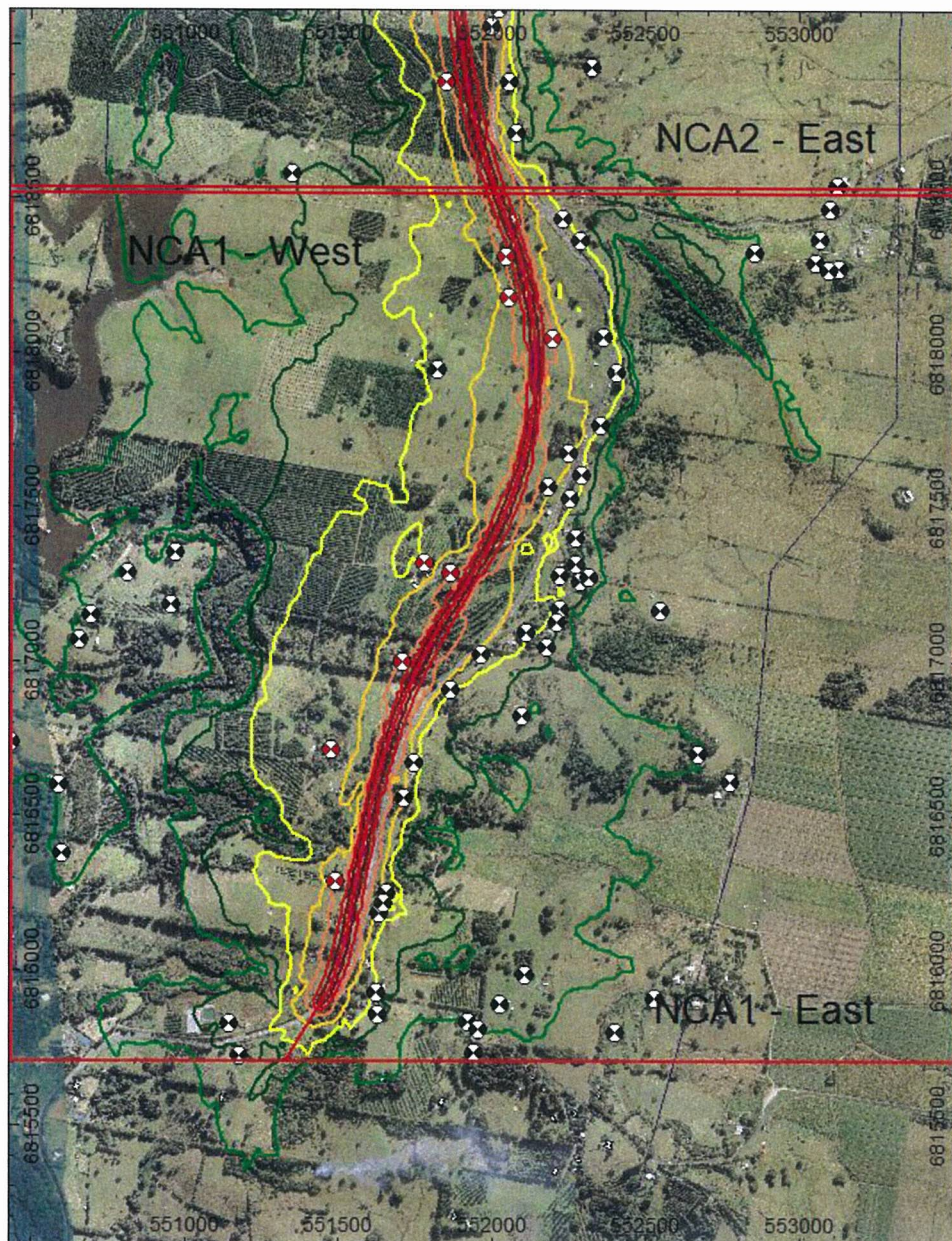
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## **Appendix 4 – Evening and night time noise modeling (Type 3)**

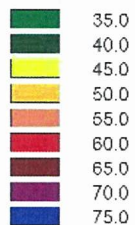




#### Receiver Legend

Receiver  
(meets ICNG target)

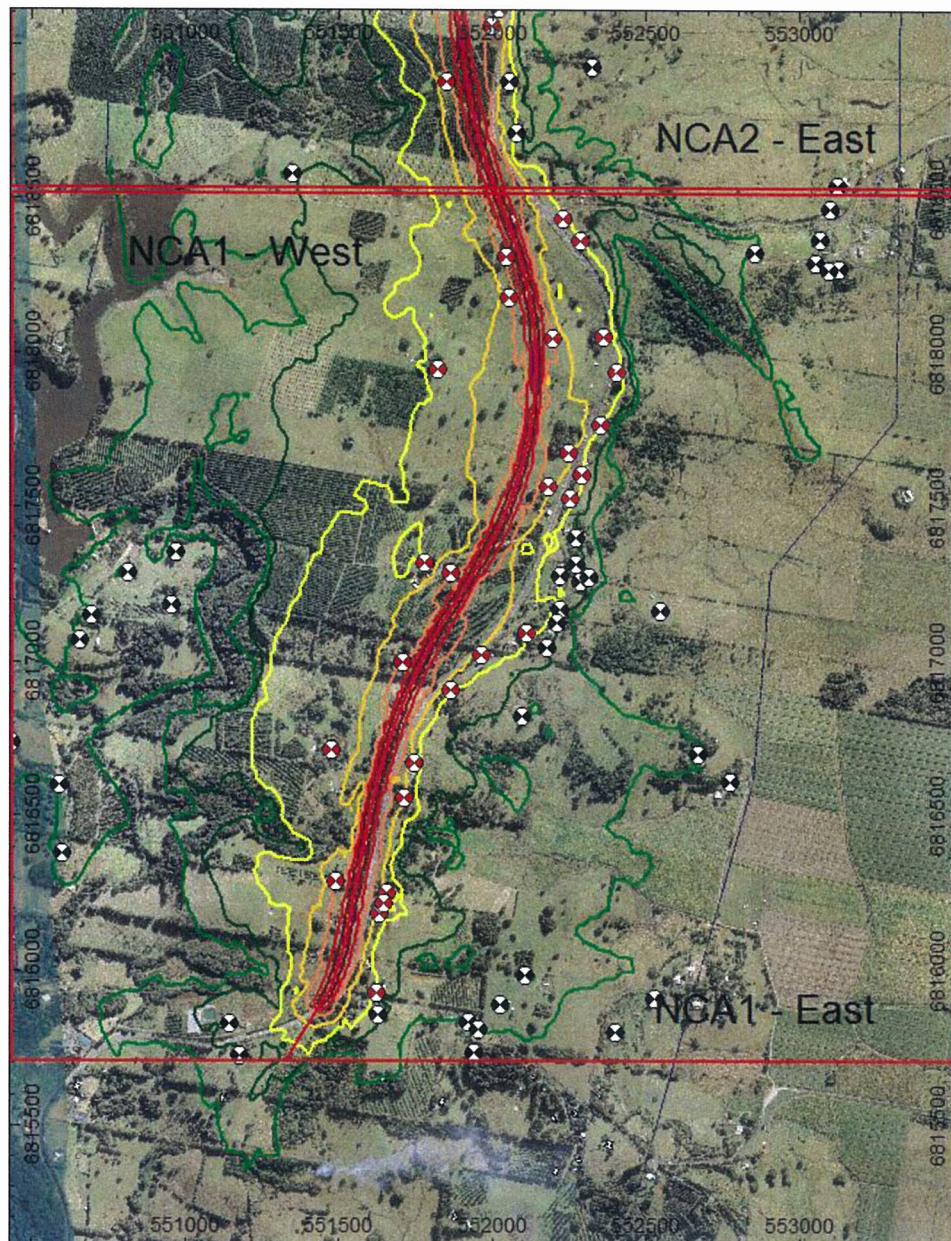
Receiver  
(exceeds ICNG target)



#### Type 3 Activity

Out of Hours Work Evening period  
(6:00pm – 7:00pm) Noise Catchment  
Area 1 LAeq, 15min at Ground Floor  
All levels in dB(A)

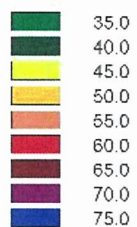




#### Receiver Legend

Receiver  
(meets ICNG target)

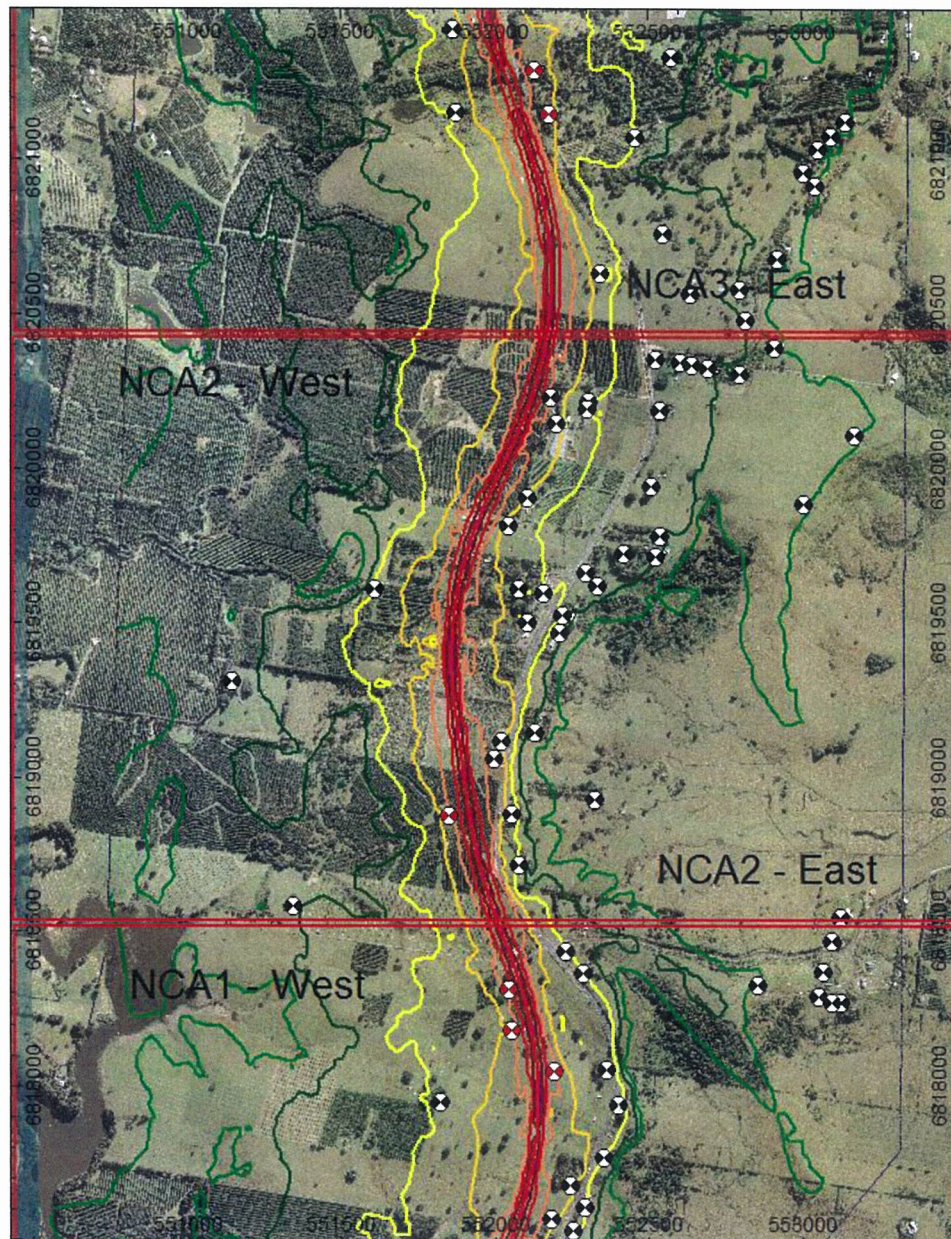
Receiver  
(exceeds ICNG target)



#### Type 3 Activity

Out of Hours Work Night period  
(6:30am – 7:00am) Noise Catchment  
Area 1 LAeq, 15min at Ground Floor  
All levels in dB(A)





#### Receiver Legend

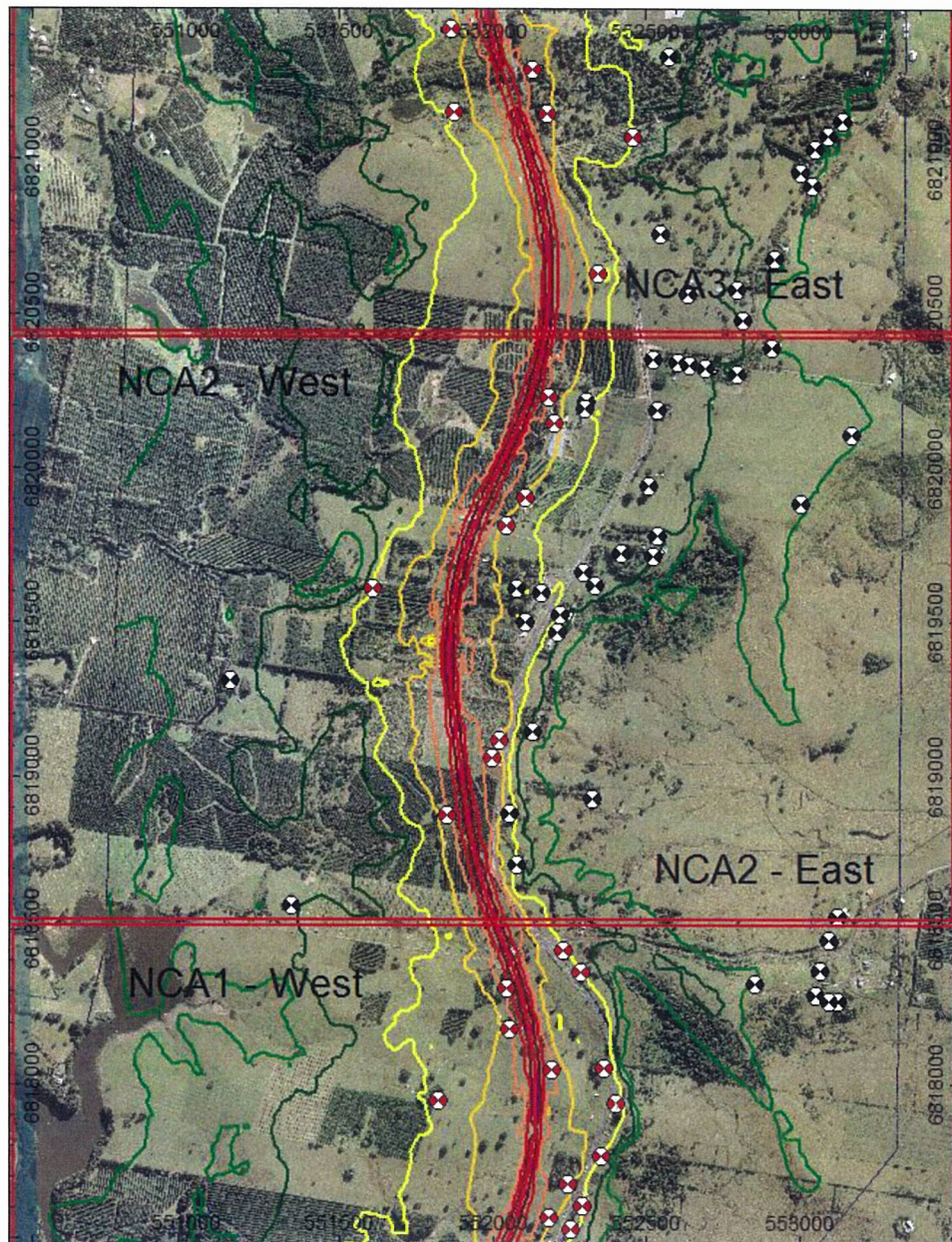
- Receiver (meets ICNG target)
- Receiver (exceeds ICNG target)

|      |
|------|
| 35.0 |
| 40.0 |
| 45.0 |
| 50.0 |
| 55.0 |
| 60.0 |
| 65.0 |
| 70.0 |
| 75.0 |

#### Type 3 Activity

Out of Hours Work Evening period  
(6:00pm – 7:00pm) Noise Catchment  
Area 2 LAeq, 15min at Ground Floor  
All levels in dB(A)

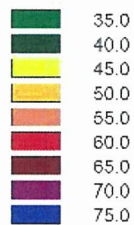




#### Receiver Legend

Receiver  
(meets ICNG target)

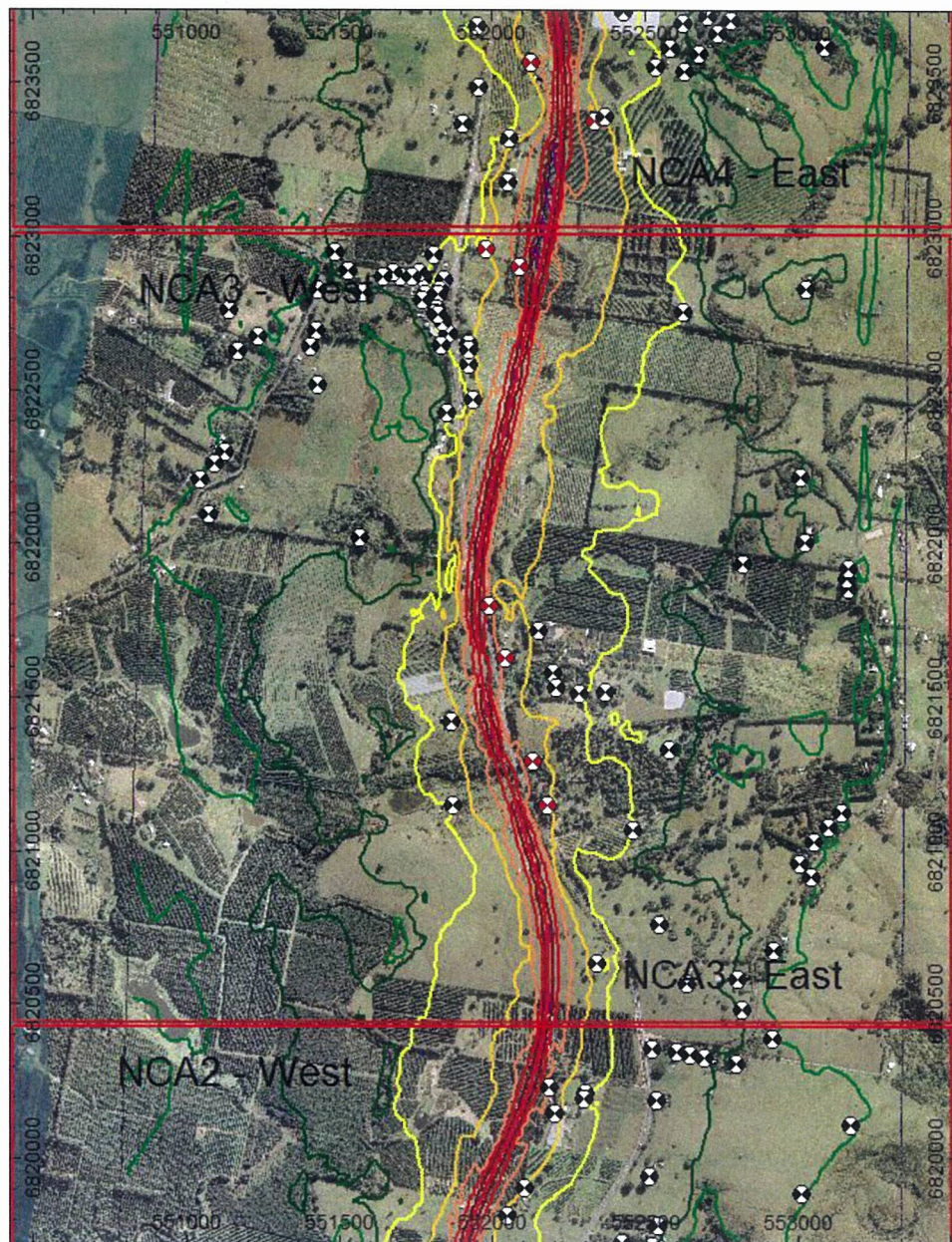
Receiver  
(exceeds ICNG target)



#### Type 3 Activity

Out of Hours Work Night period  
(6:30am – 7:00am) Noise Catchment  
Area 2 LAeq, 15min at Ground Floor  
All levels in dB(A)

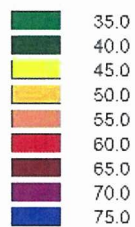




#### Receiver Legend

Receiver  
(meets ICNG target)

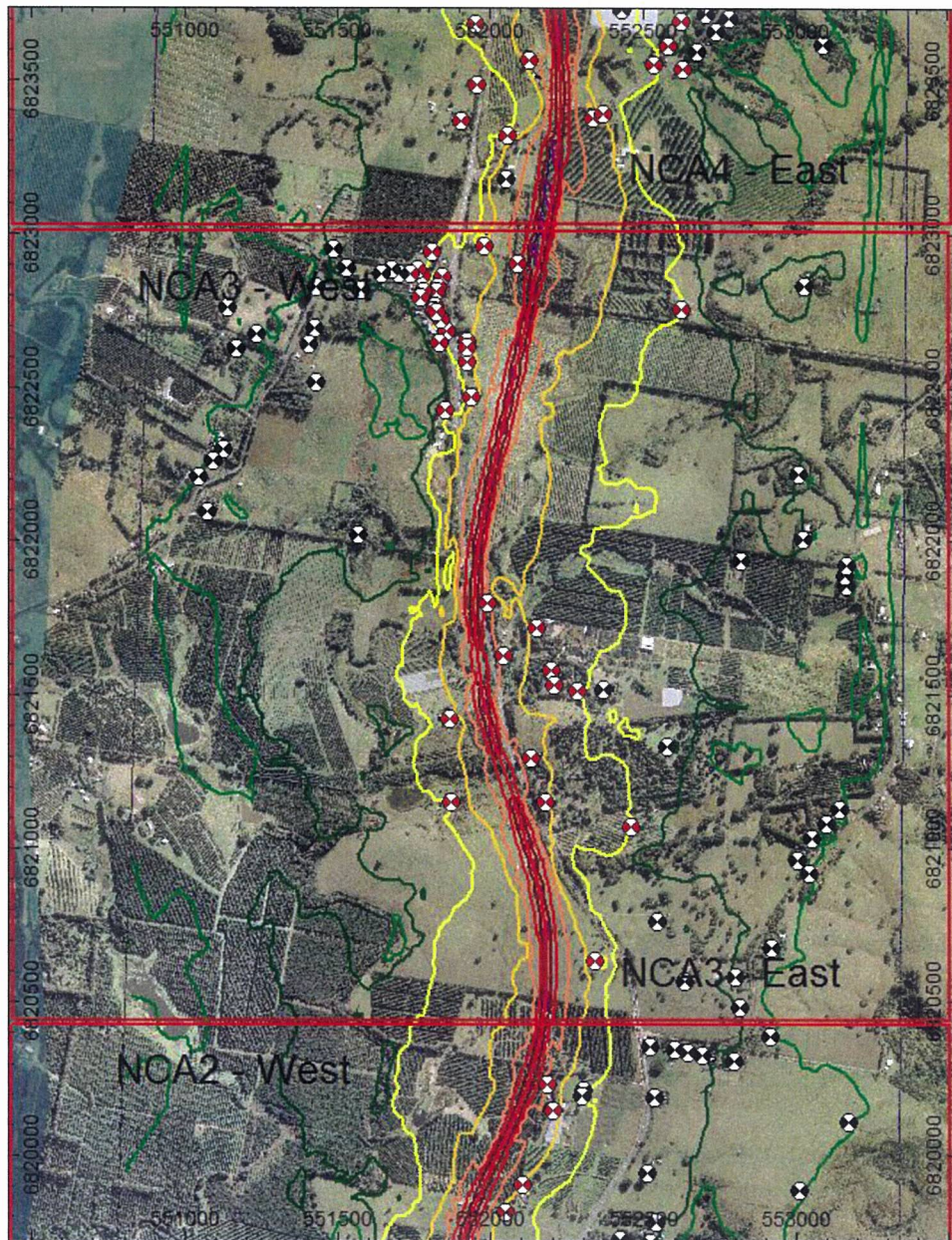
Receiver  
(exceeds ICNG target)



#### Type 3 Activity

Out of Hours Work Evening period  
(6:00pm – 7:00pm) Noise Catchment  
Area 3 LAeq, 15min at Ground Floor  
All levels in dB(A)

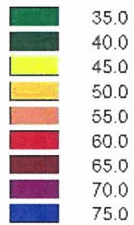




**Receiver Legend**

Receiver  
(meets ICNG target)

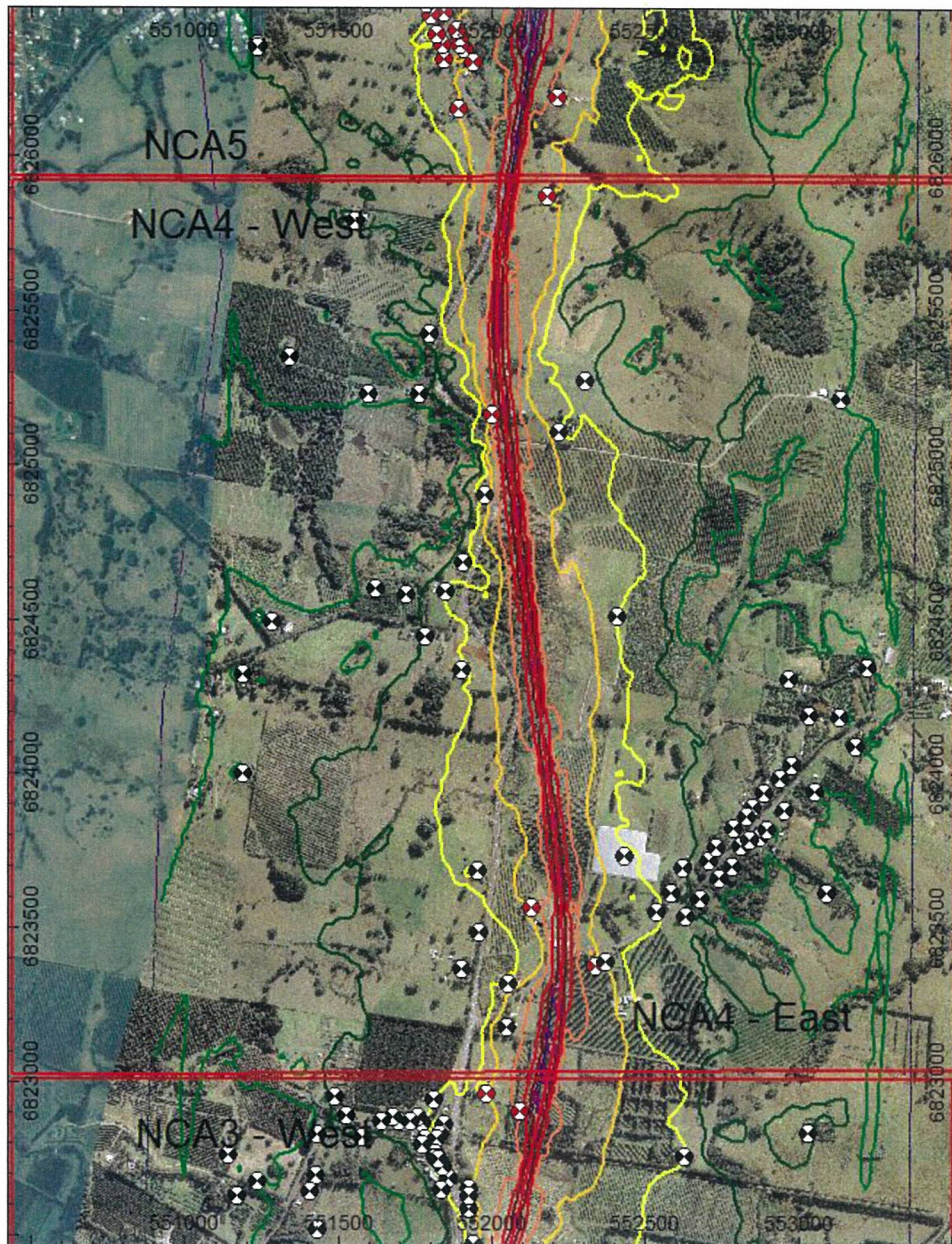
Receiver  
(exceeds ICNG target)



**Type 3 Activity**

Out of Hours Work Night period  
(6:30am – 7:00am) Noise Catchment  
Area 3 LAeq, 15min at Ground Floor  
All levels in dB(A)

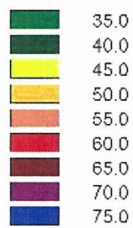




#### Receiver Legend

Receiver  
(meets ICNG target)

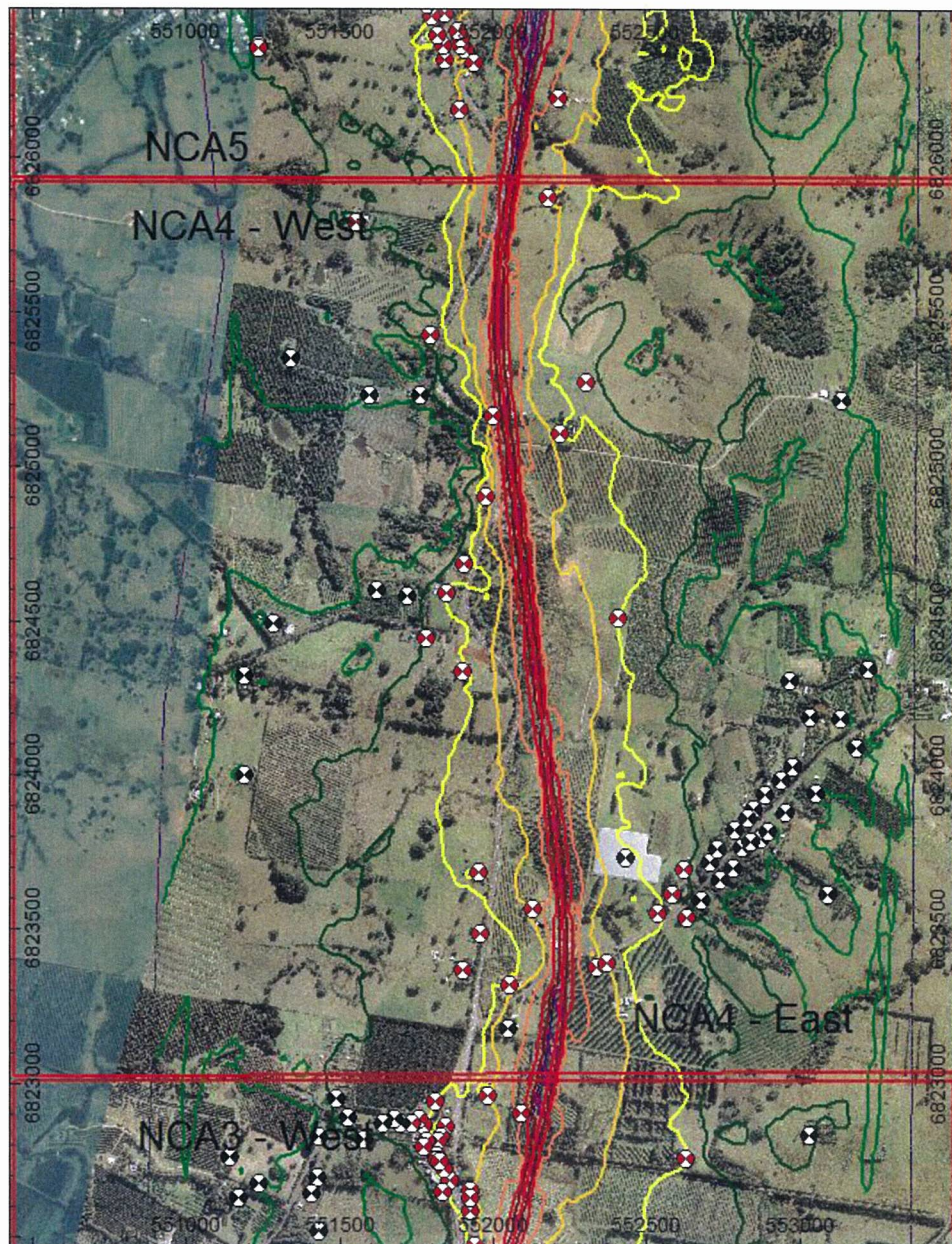
Receiver  
(exceeds ICNG target)



#### Type 3 Activity

Out of Hours Work Evening period  
(6:00pm – 7:00pm) Noise Catchment  
Area 4 LAeq, 15min at Ground Floor  
All levels in dB(A)

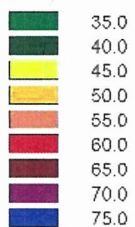




#### Receiver Legend

Receiver  
(meets ICNIG target)

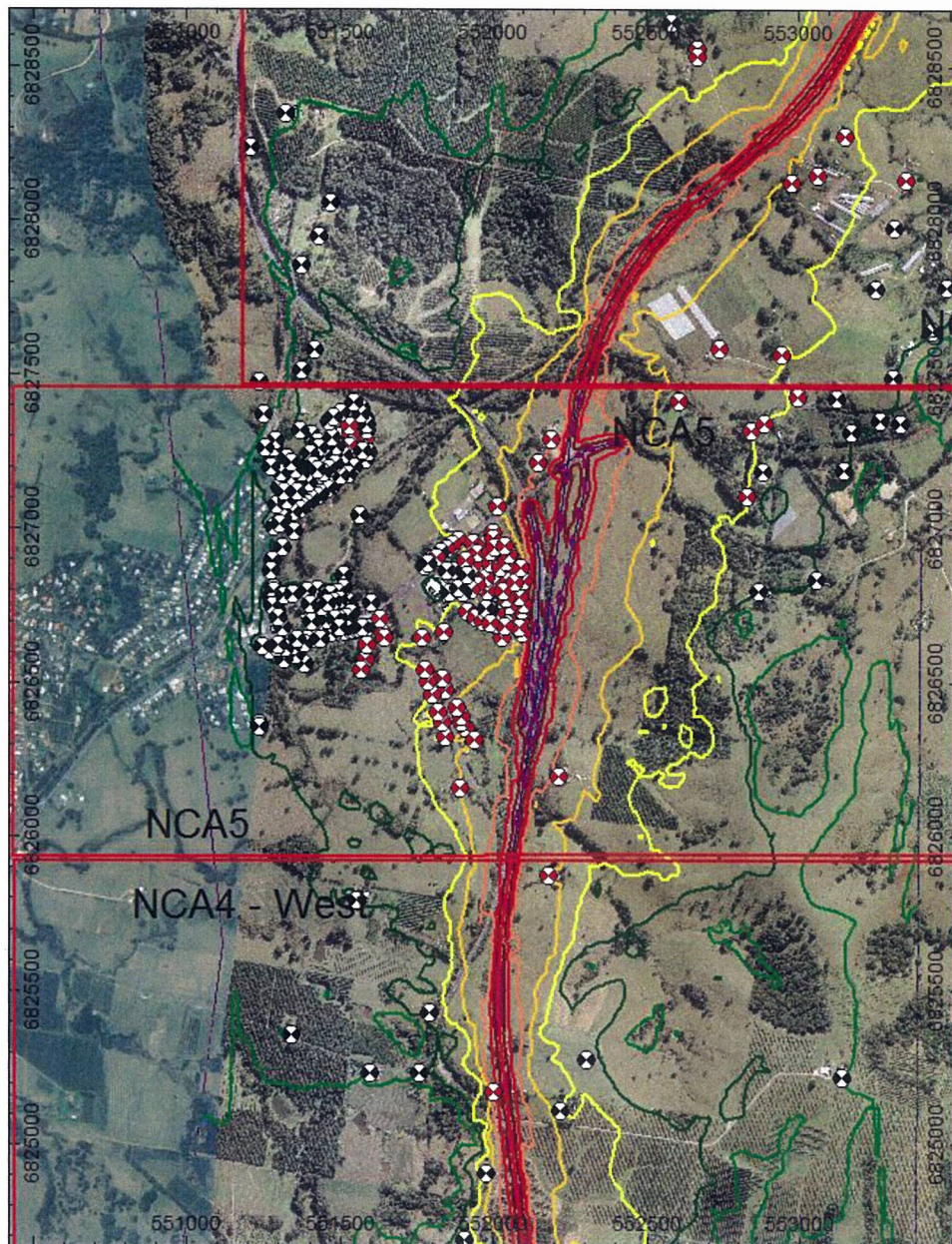
Receiver  
(exceeds ICNIG target)



#### Type 3 Activity

Out of Hours Work Night period  
(6:30am – 7:00am) Noise Catchment  
Area 4 LAeq, 15min at Ground Floor  
All levels in dB(A)

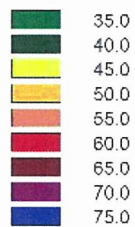




#### Receiver Legend

Receiver  
(meets ICNG target)

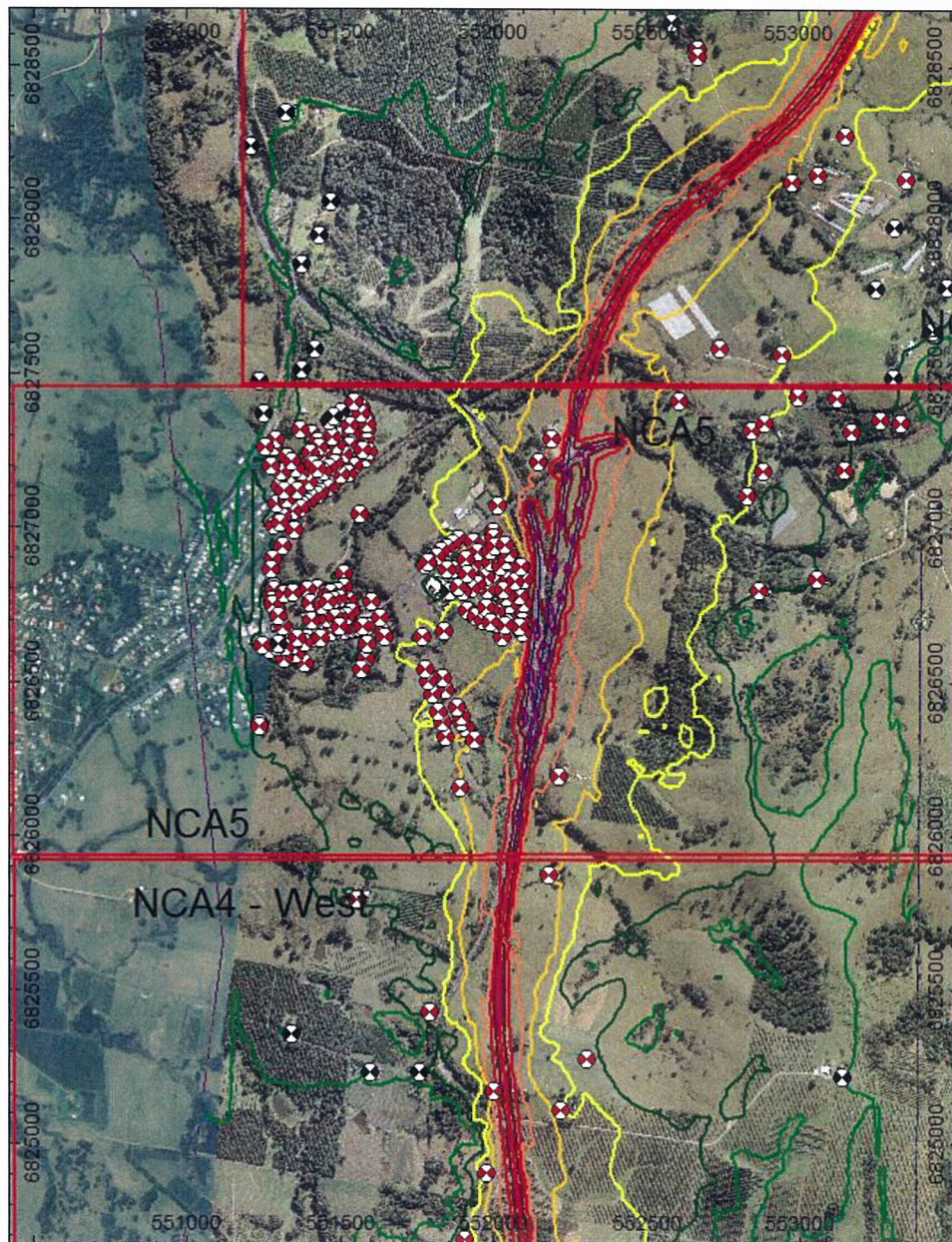
Receiver  
(exceeds ICNG target)



#### Type 3 Activity

Out of Hours Work Evening period  
(6:00pm – 7:00pm) Noise Catchment  
Area 5 LAeq, 15min at Ground Floor  
All levels in dB(A)

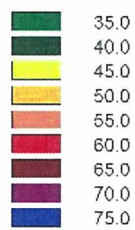




#### Receiver Legend

Receiver  
(meets ICNG target)

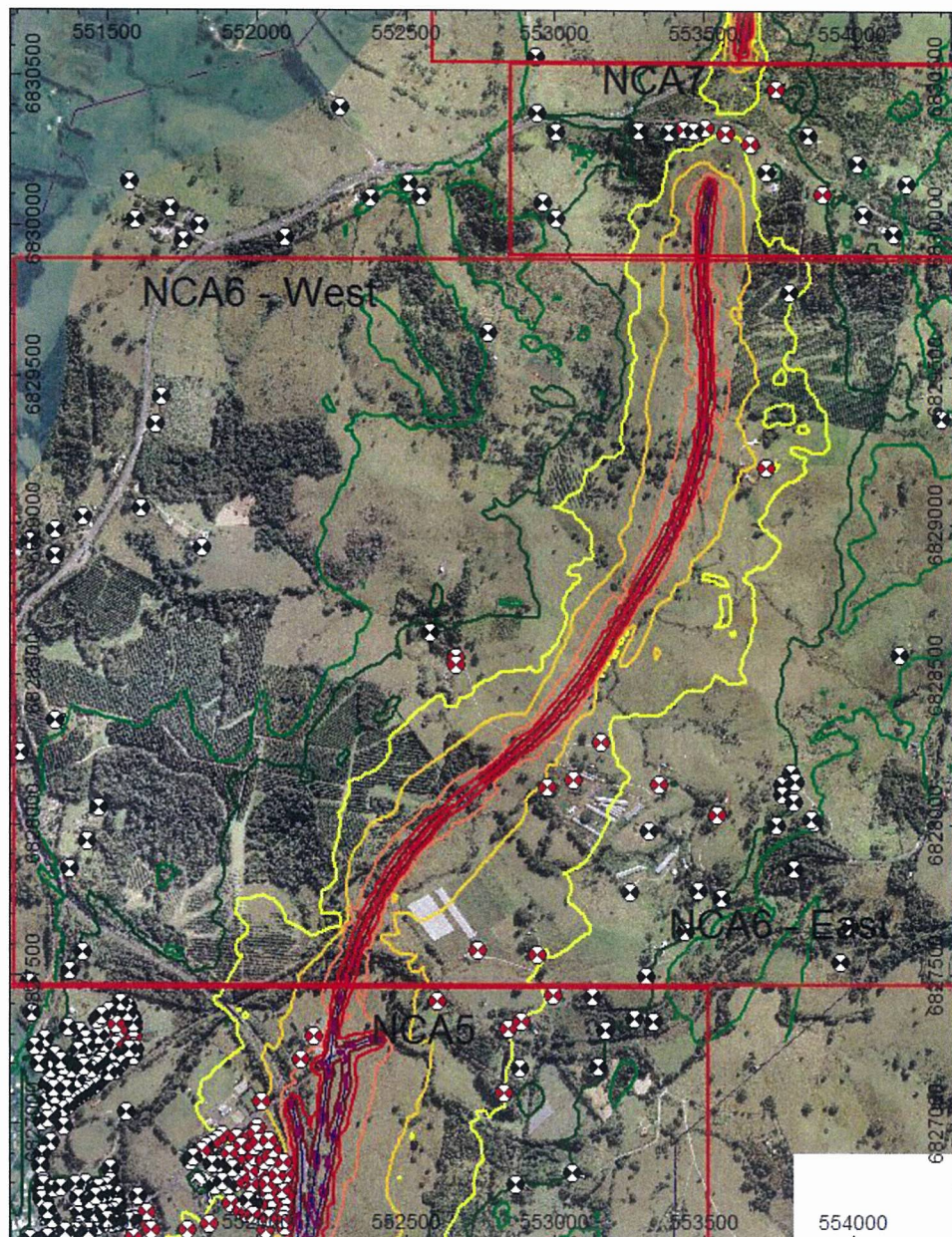
Receiver  
(exceeds ICNG target)



#### Type 3 Activity

Out of Hours Work Night period  
(6:30am – 7:00am) Noise Catchment  
Area 5 LAeq, 15min at Ground Floor  
All levels in dB(A)

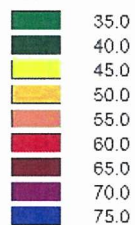




#### Receiver Legend

Receiver  
(meets ICNG target)

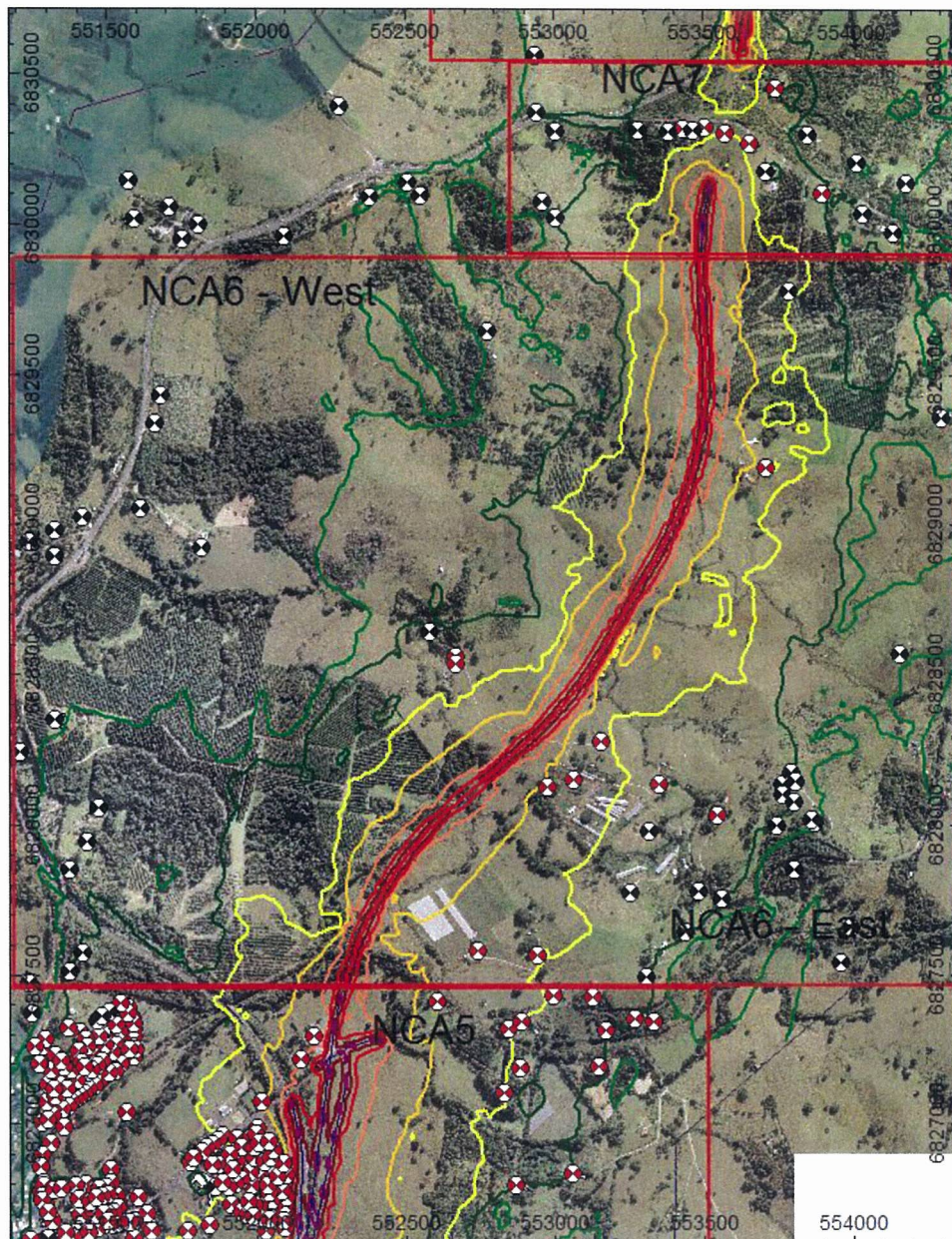
Receiver  
(exceeds ICNG target)



#### Type 3 Activity

Out of Hours Work Evening period  
(6:00pm – 7:00pm) Noise Catchment  
Area 6 LAeq, 15min at Ground Floor  
All levels in dB(A)

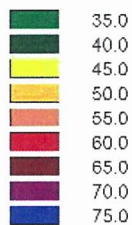




#### Receiver Legend

Receiver  
(meets ICNIG target)

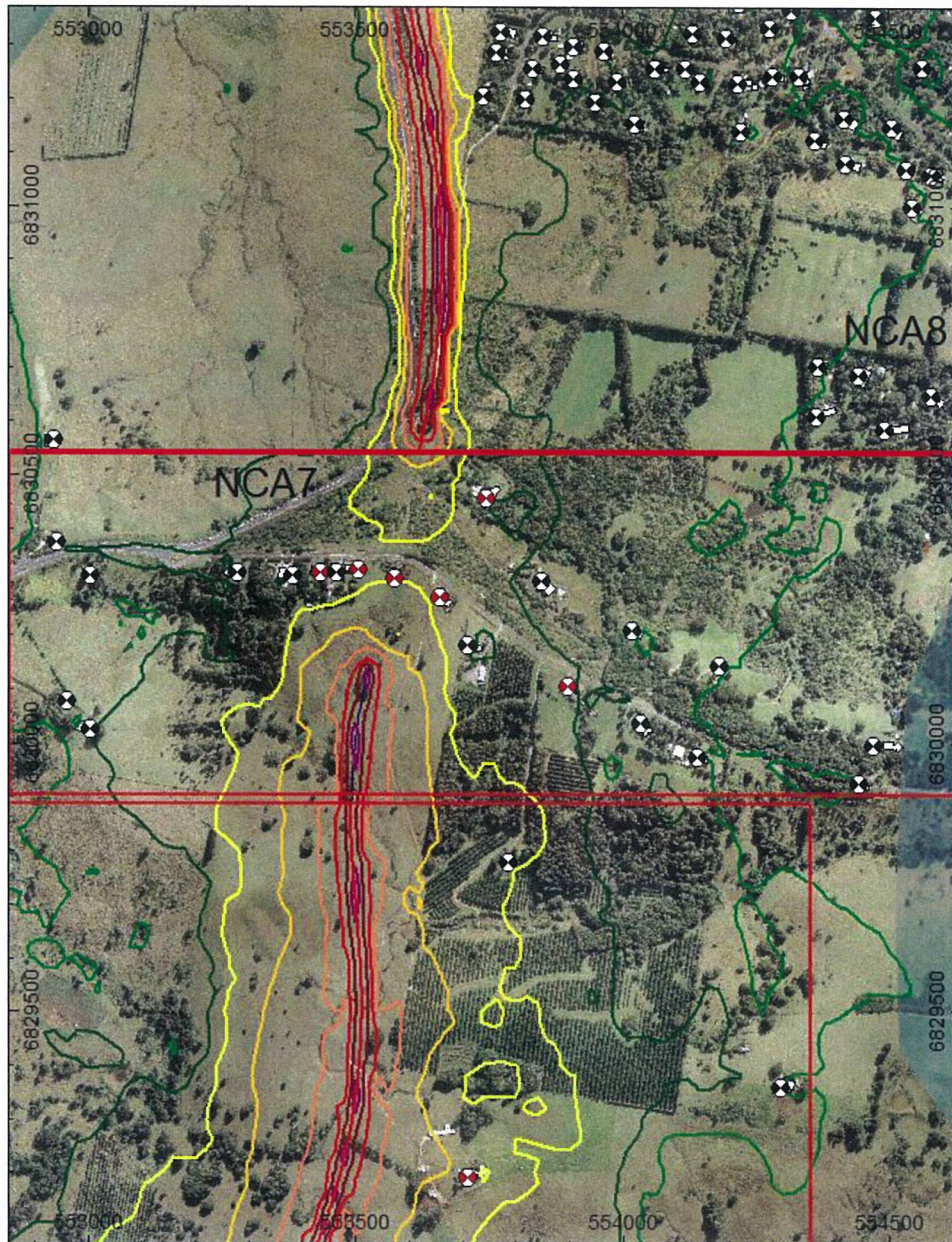
Receiver  
(exceeds ICNIG target)



#### Type 3 Activity

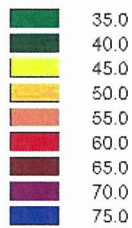
Out of Hours Work Night period  
(6:30am – 7:00am) Noise Catchment  
Area 6 LAeq, 15min at Ground Floor  
All levels in dB(A)





**Receiver Legend**

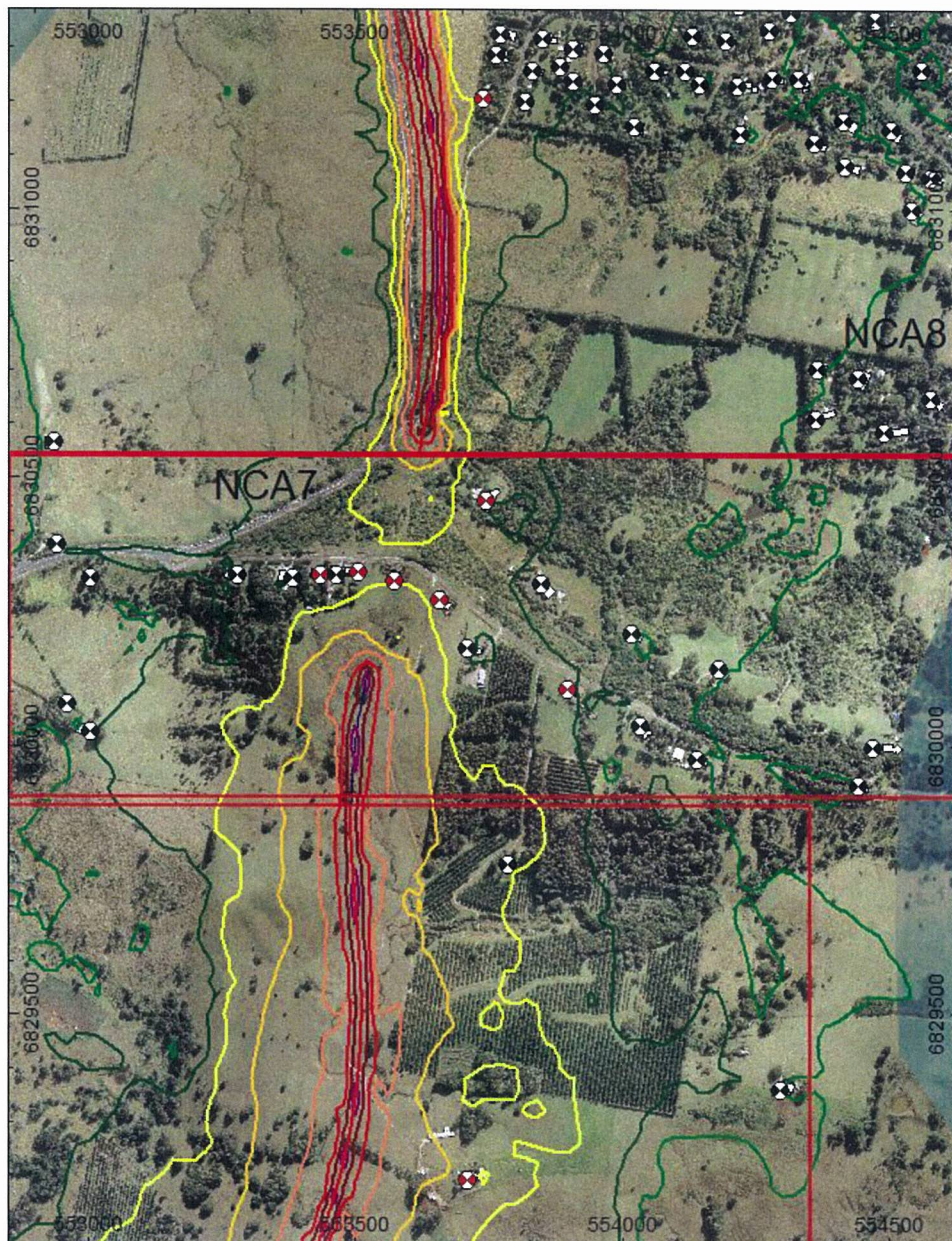
-  Receiver  
(meets ICNG target)
-  Receiver  
(exceeds ICNG target)



**Type 3 Activity**

Out of Hours Work Evening period  
(6:00pm – 7:00pm) Noise Catchment  
Area 7 LAeq, 15min at Ground Floor  
All levels in dB(A)

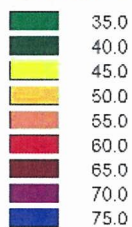




#### Receiver Legend

Receiver  
(meets ICNG target)

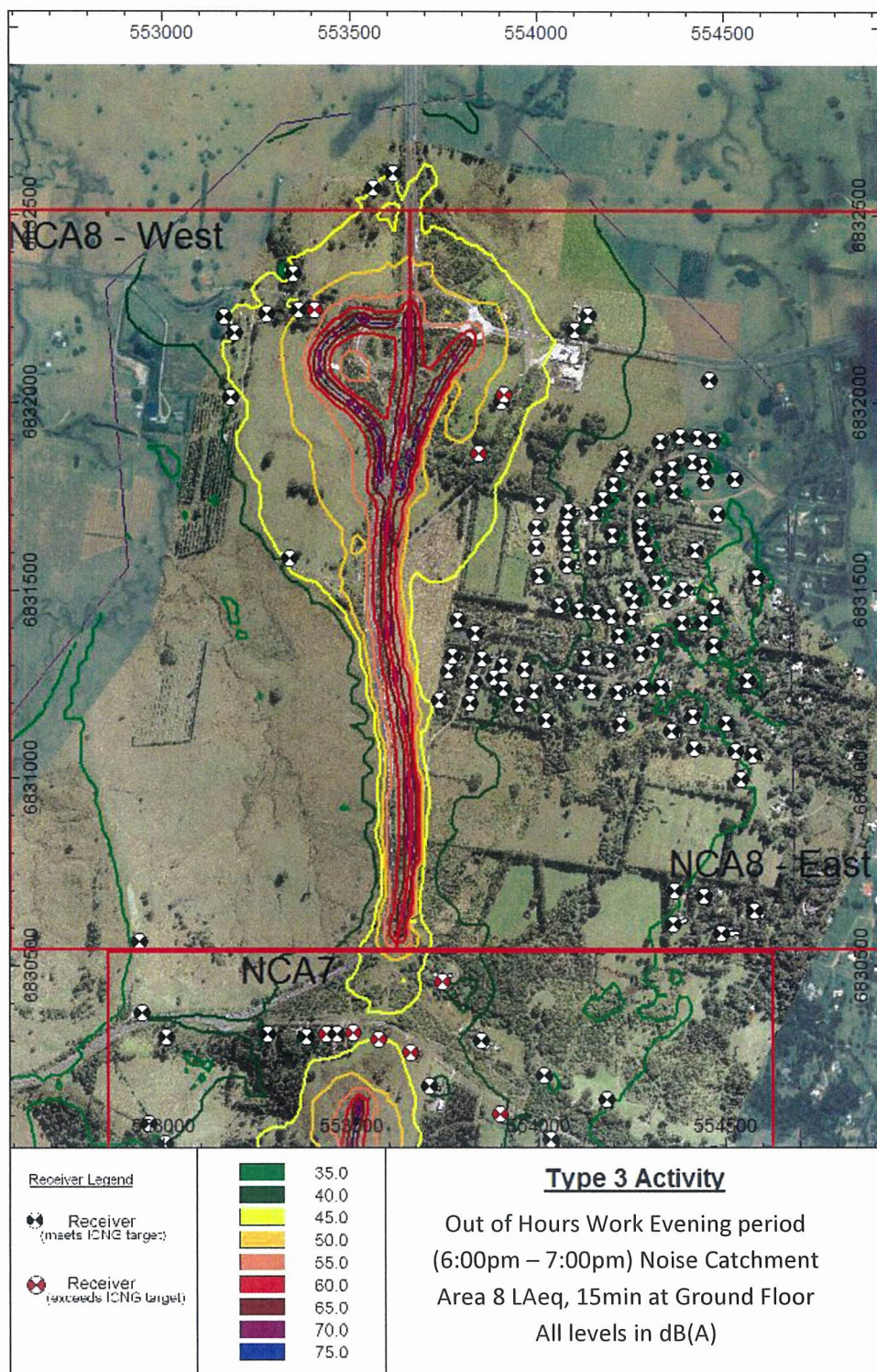
Receiver  
(exceeds ICNG target)



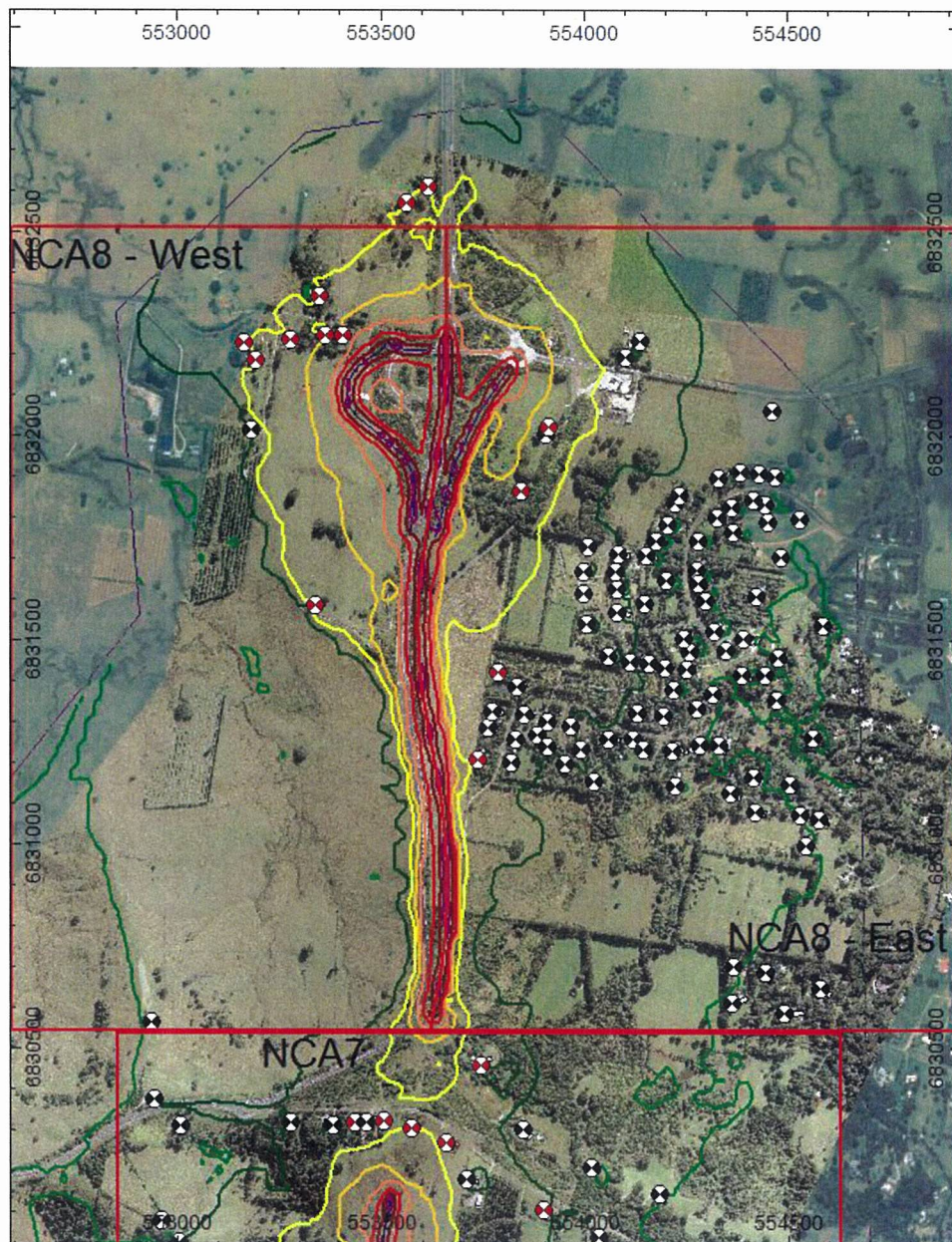
#### Type 3 Activity

Out of Hours Work Night period  
(6:30am – 7:00am) Noise Catchment  
Area 7 LAeq, 15min at Ground Floor  
All levels in dB(A)





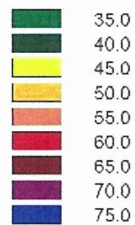




**Receiver Legend**

Receiver  
(meets ICNG target)

Receiver  
(exceeds ICNG target)

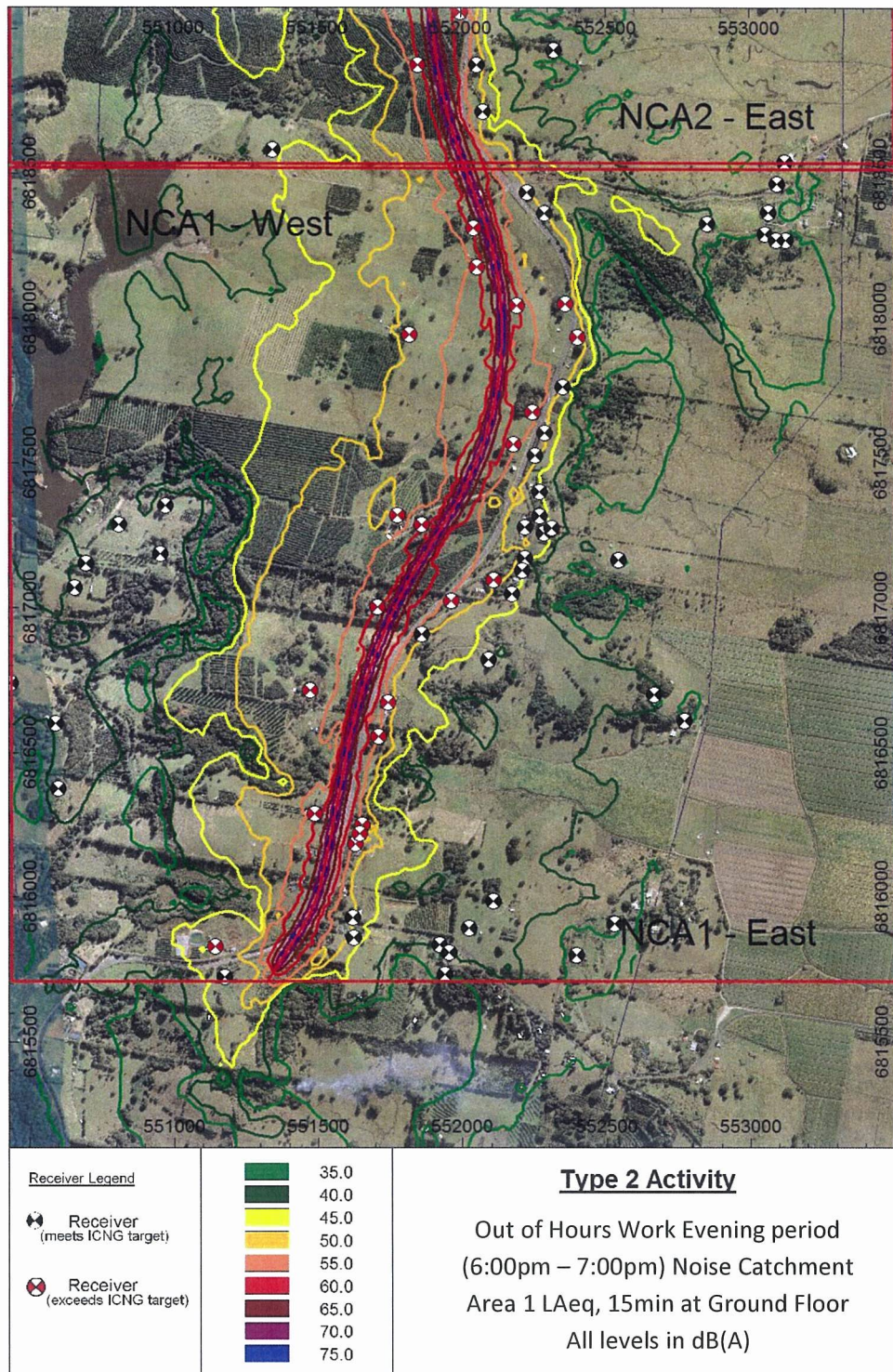


**Type 3 Activity**

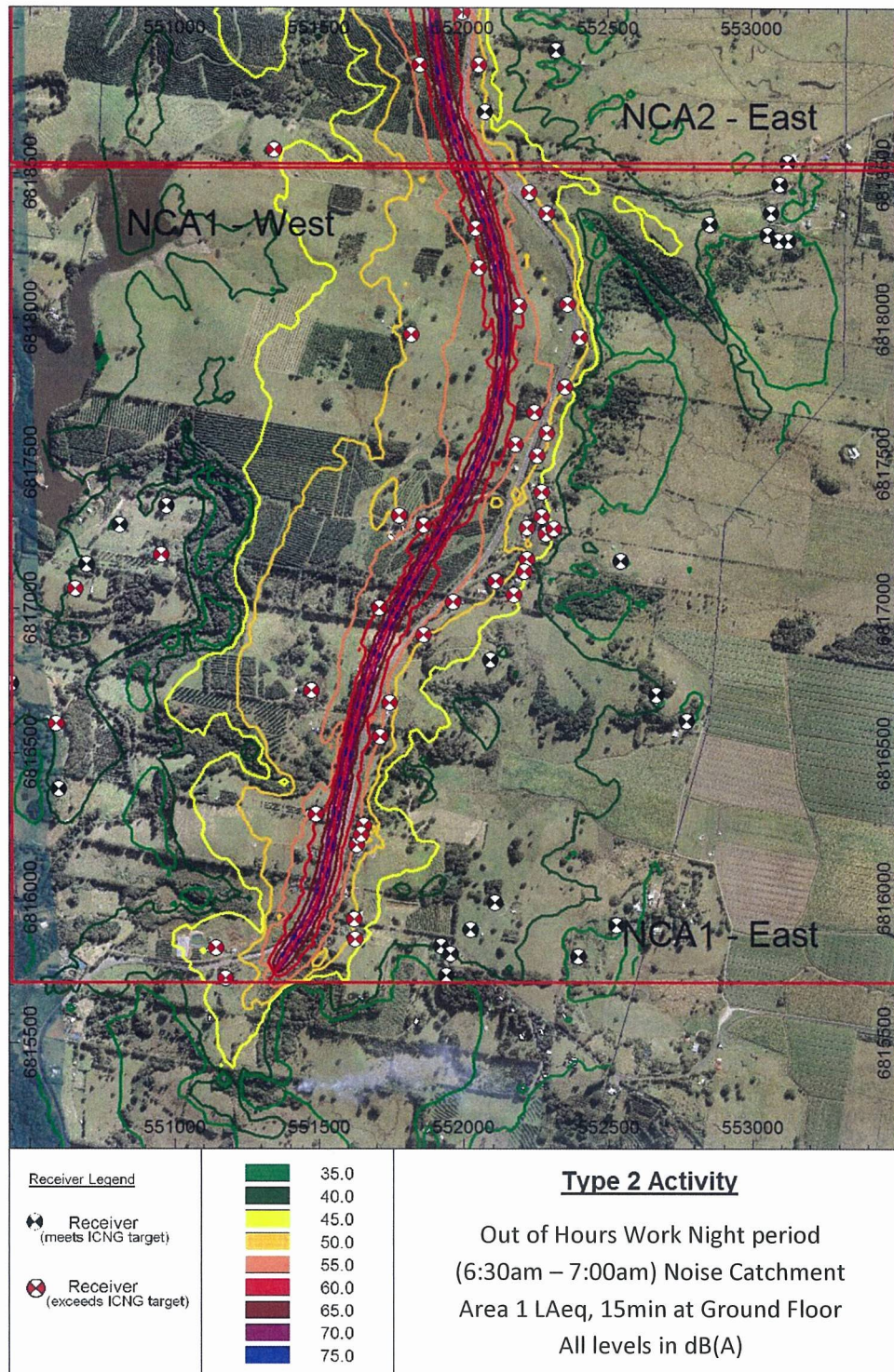
Out of Hours Work Night period  
(6:30am – 7:00am) Noise Catchment  
Area 8 LAeq, 15min at Ground Floor  
All levels in dB(A)



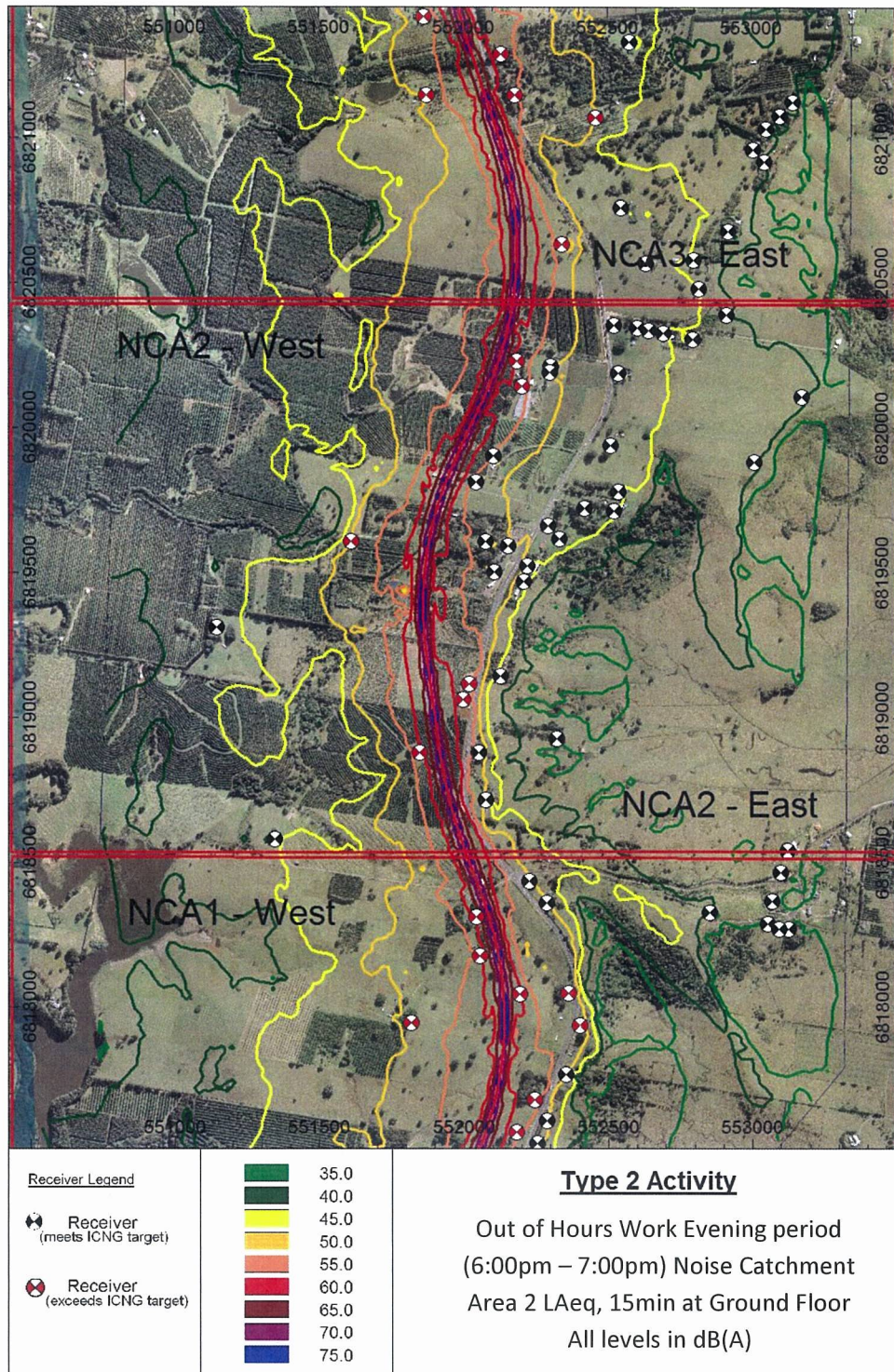
## **Appendix 5 – Evening and night time noise modeling (Type 2)**



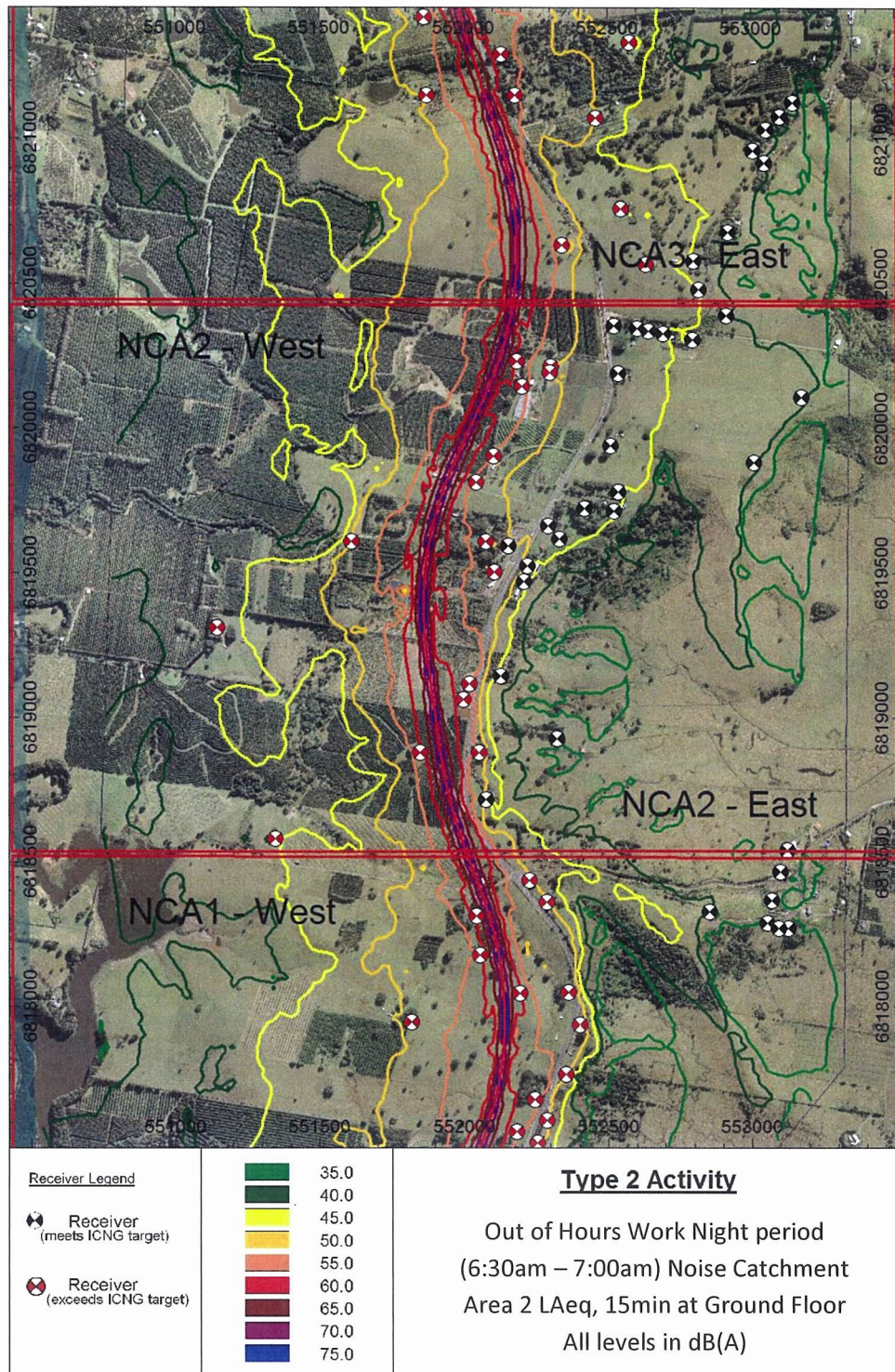




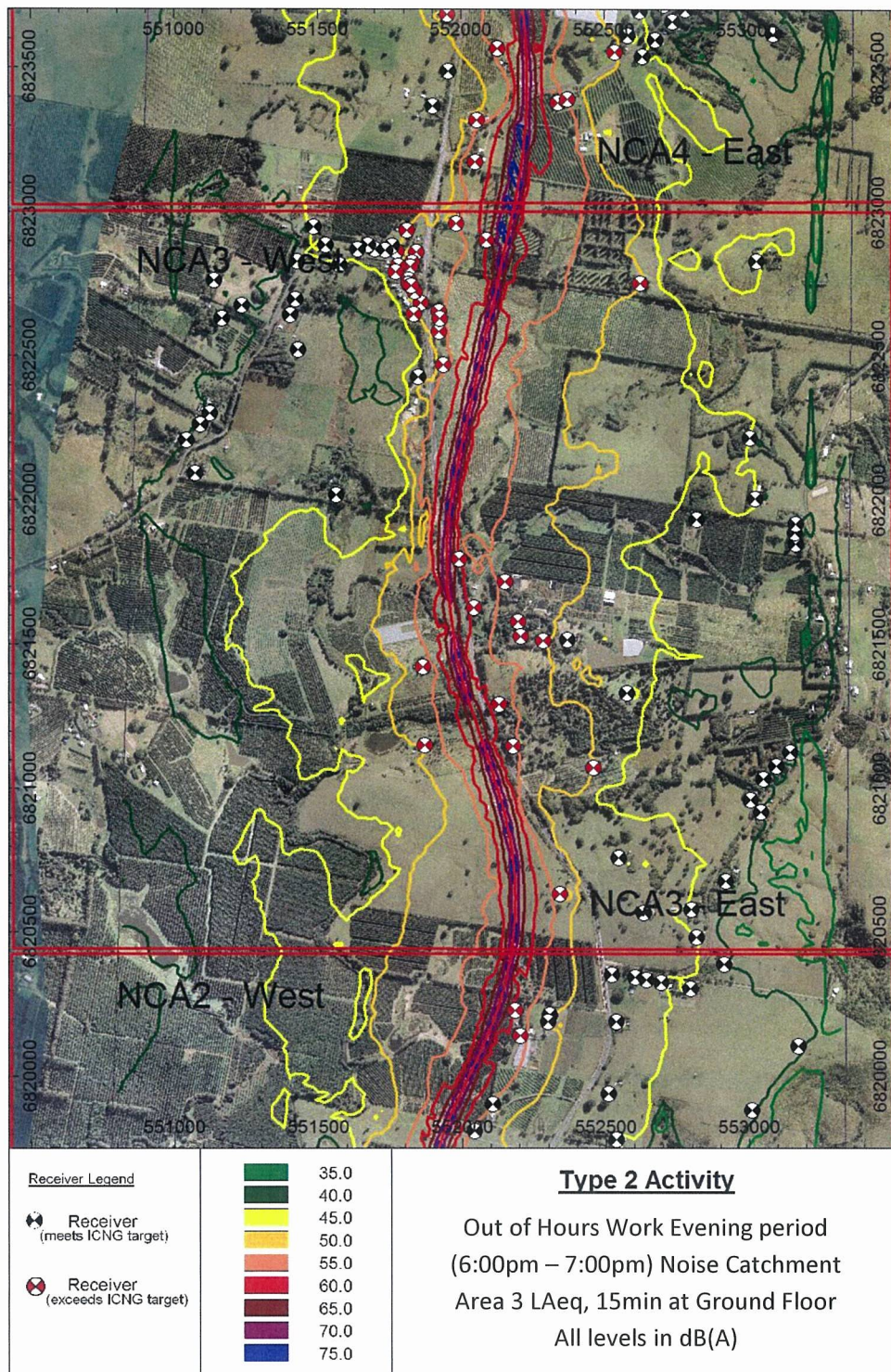




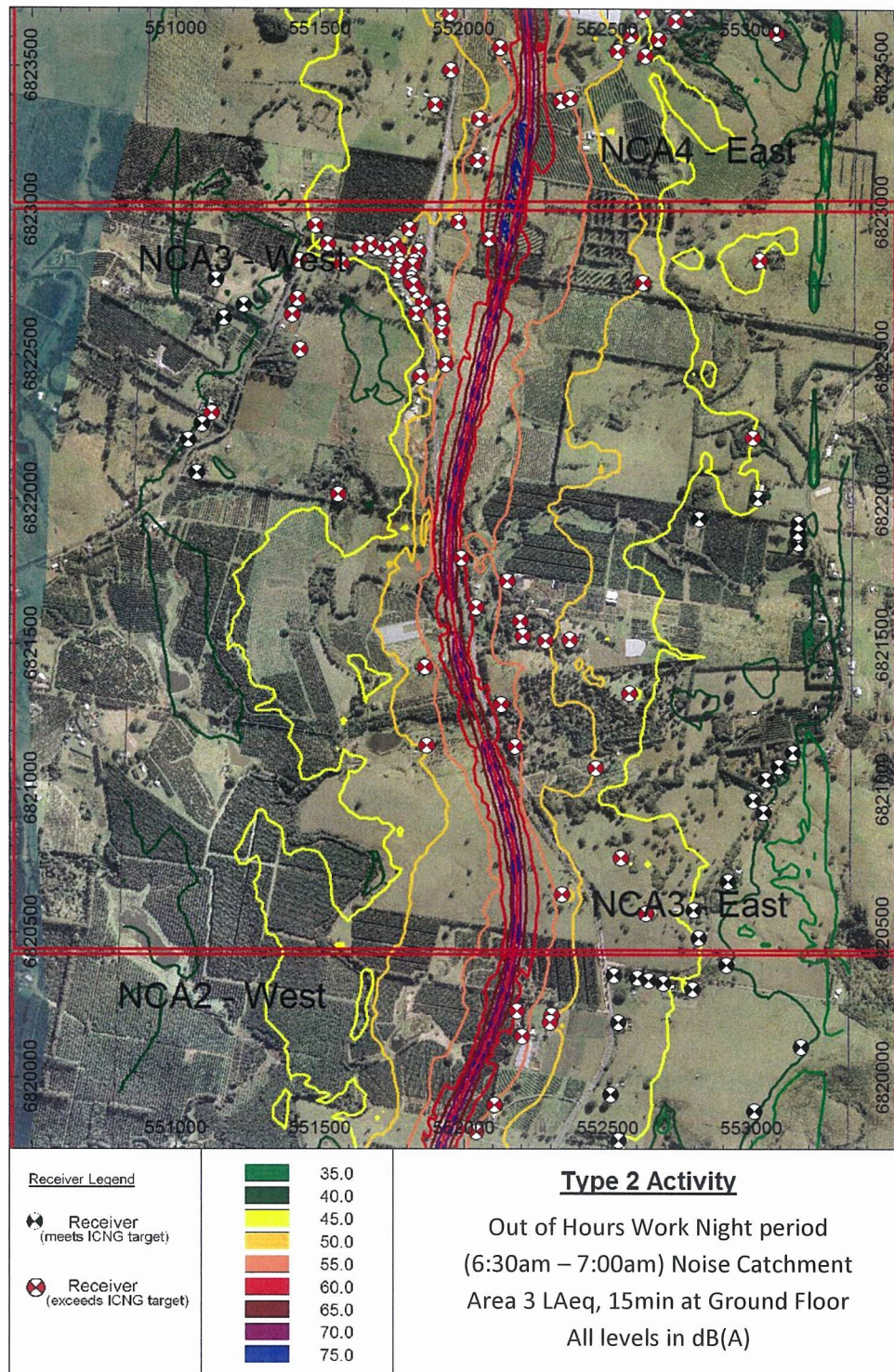




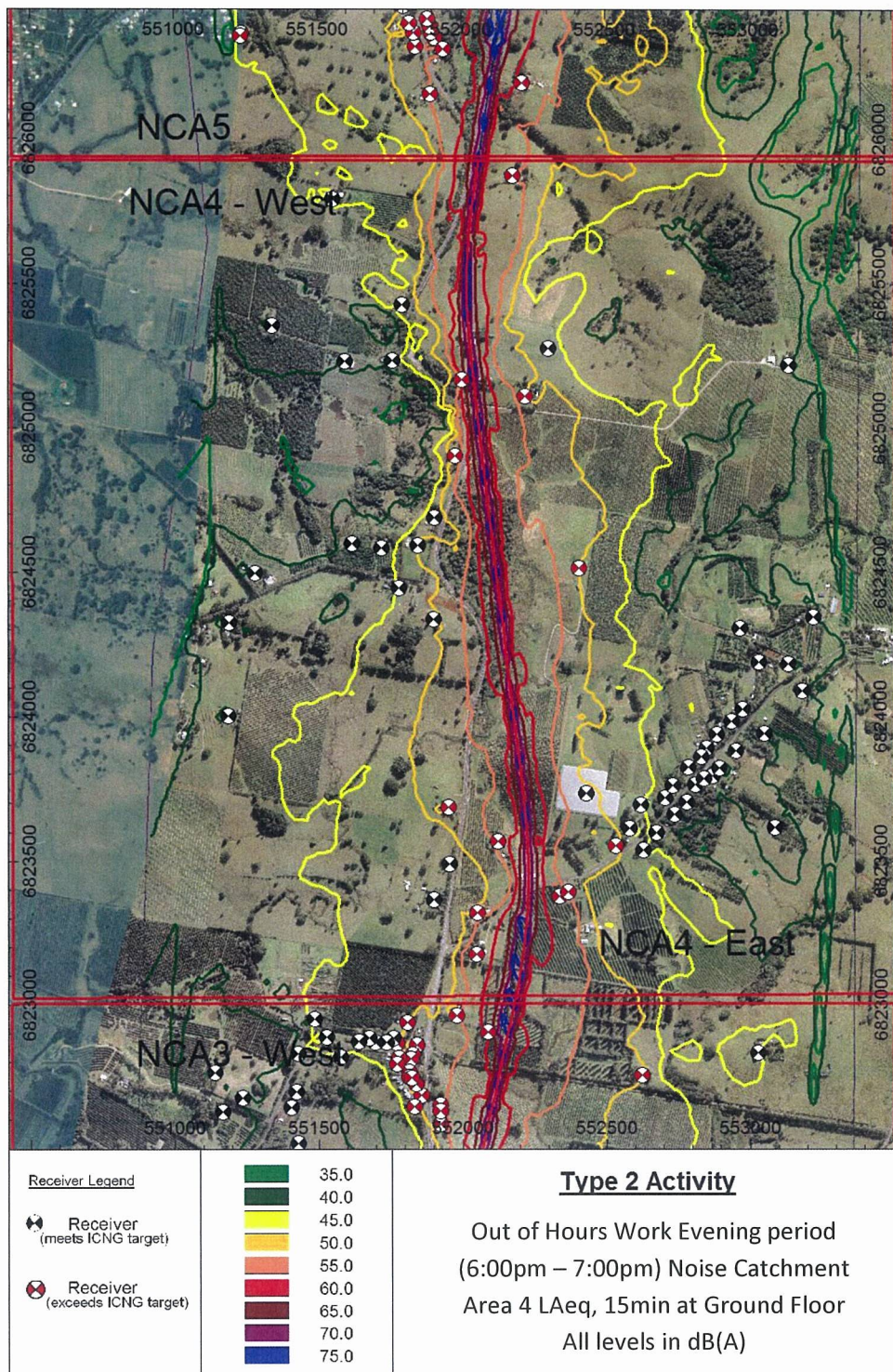




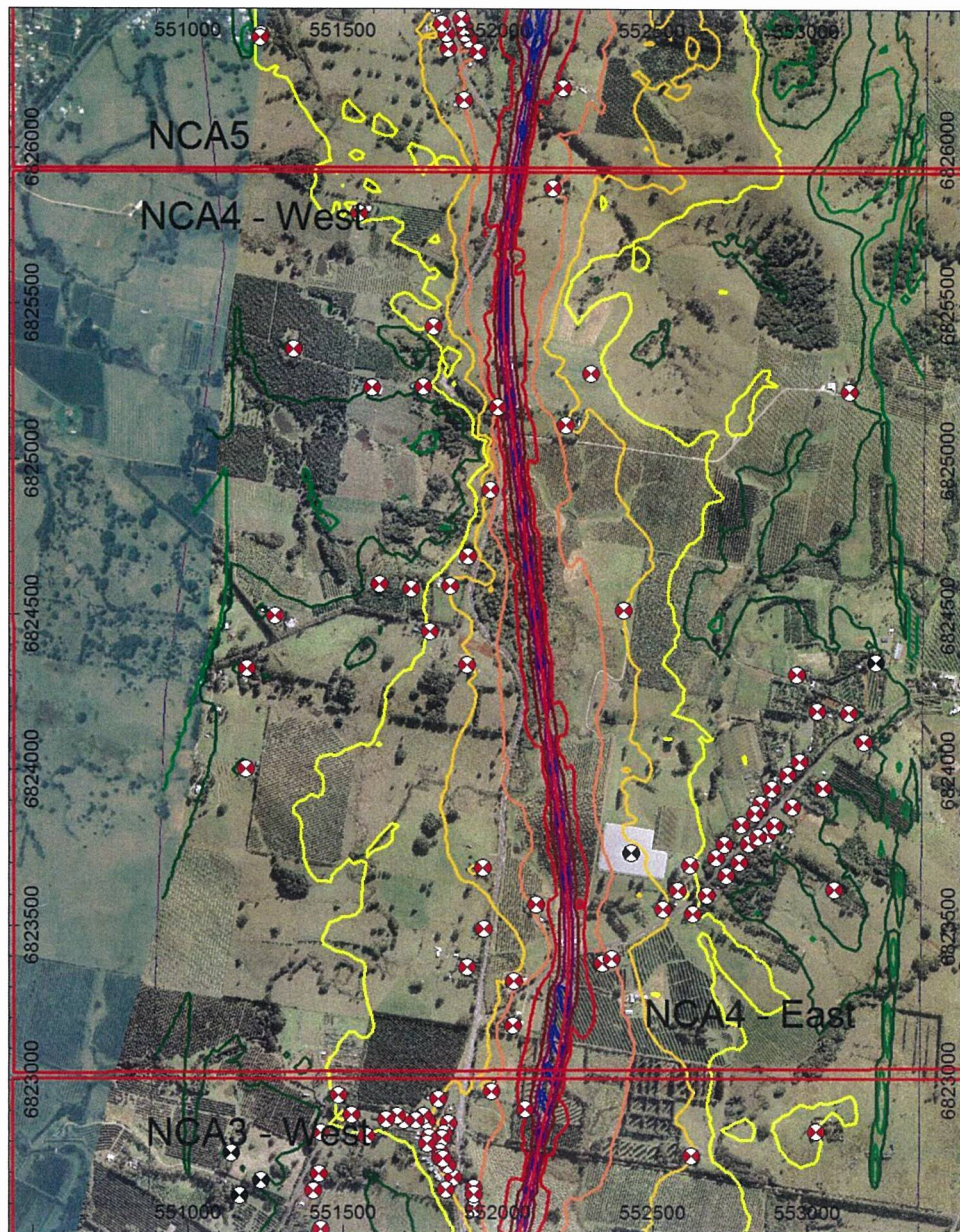








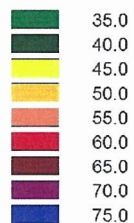






#### Receiver Legend

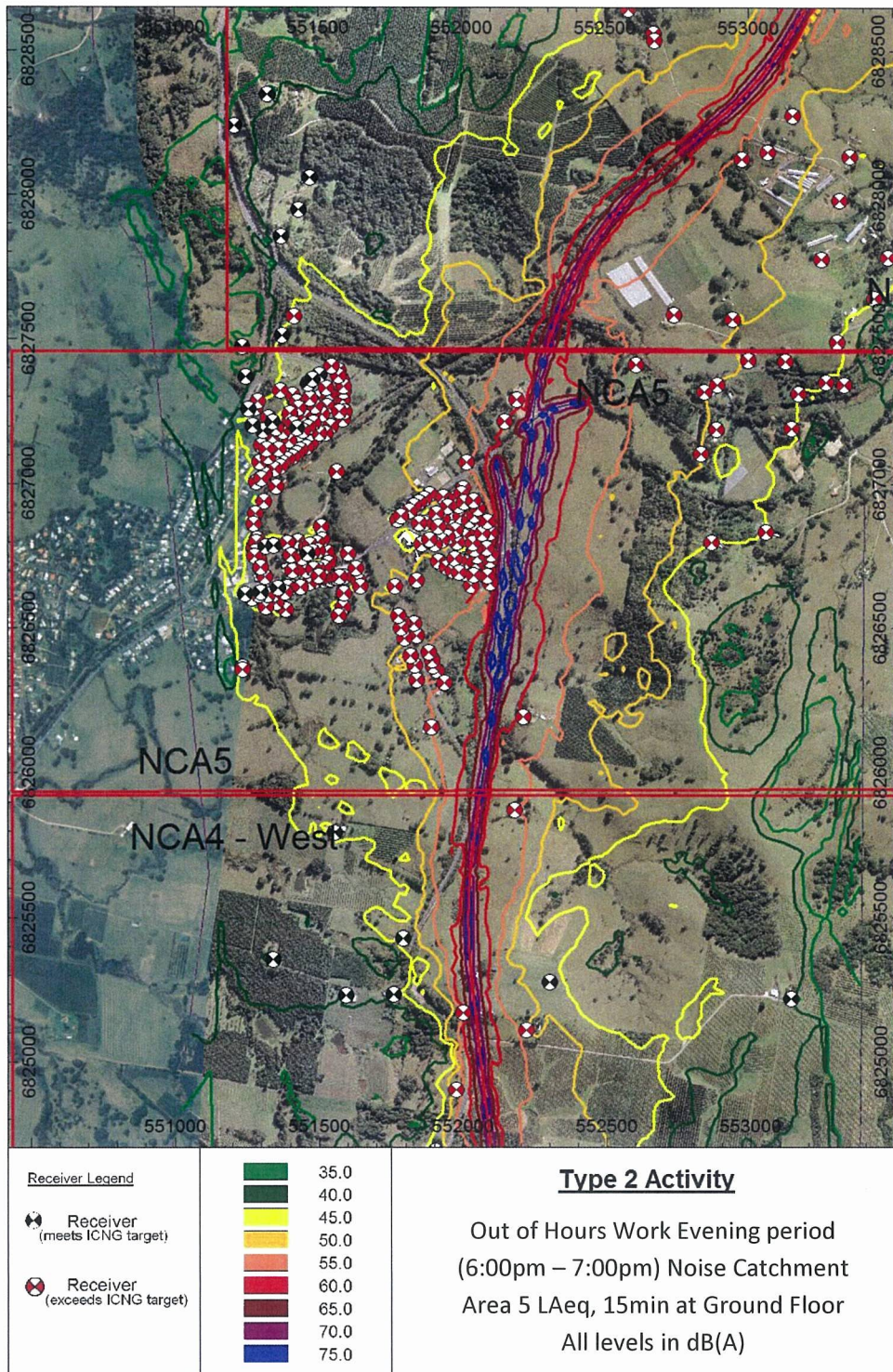
-  Receiver (meets ICNG target)
-  Receiver (exceeds ICNG target)



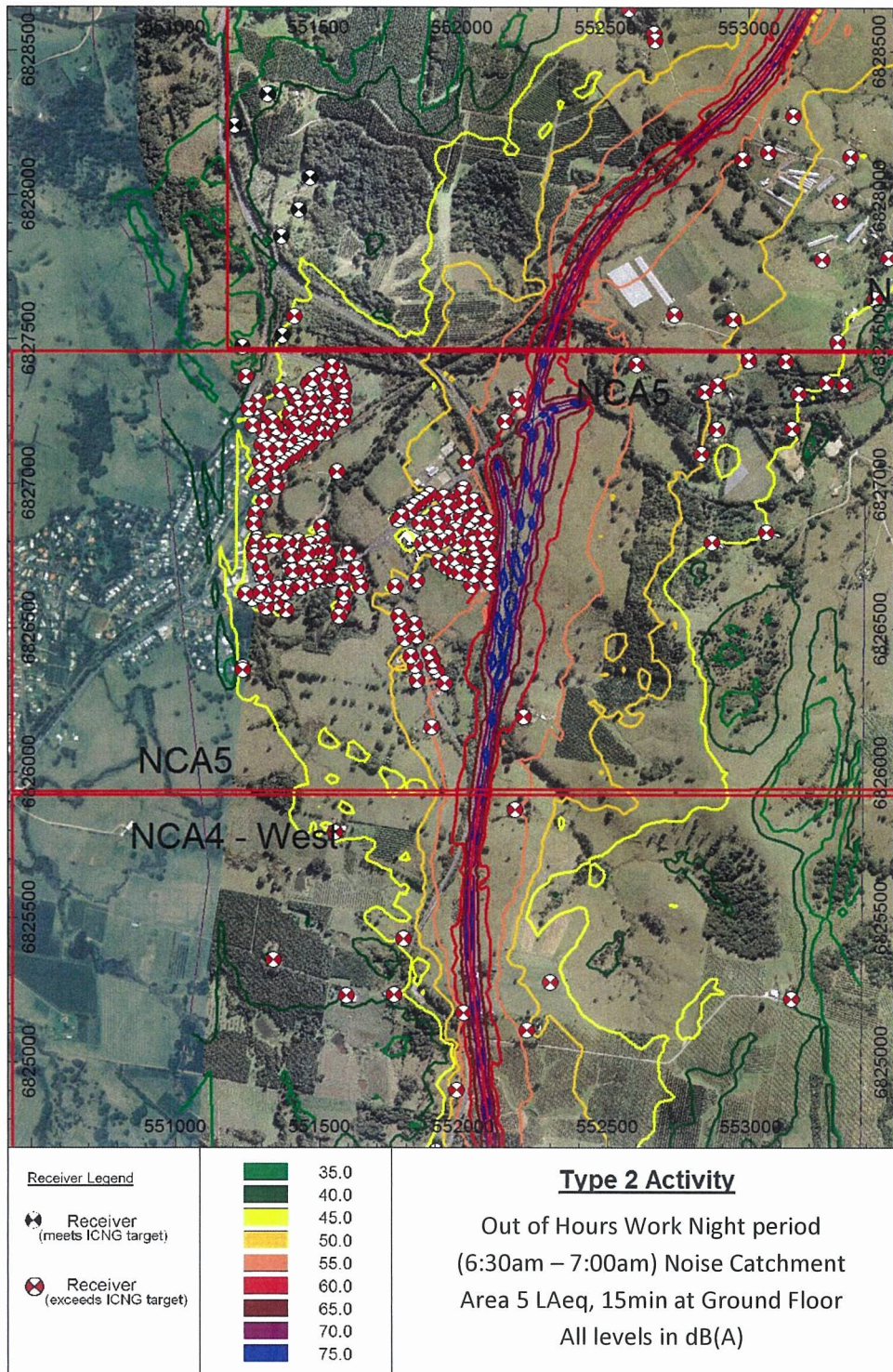
#### Type 2 Activity

Out of Hours Work Night period  
(6:30am – 7:00am) Noise Catchment  
Area 4 LAeq, 15min at Ground Floor  
All levels in dB(A)

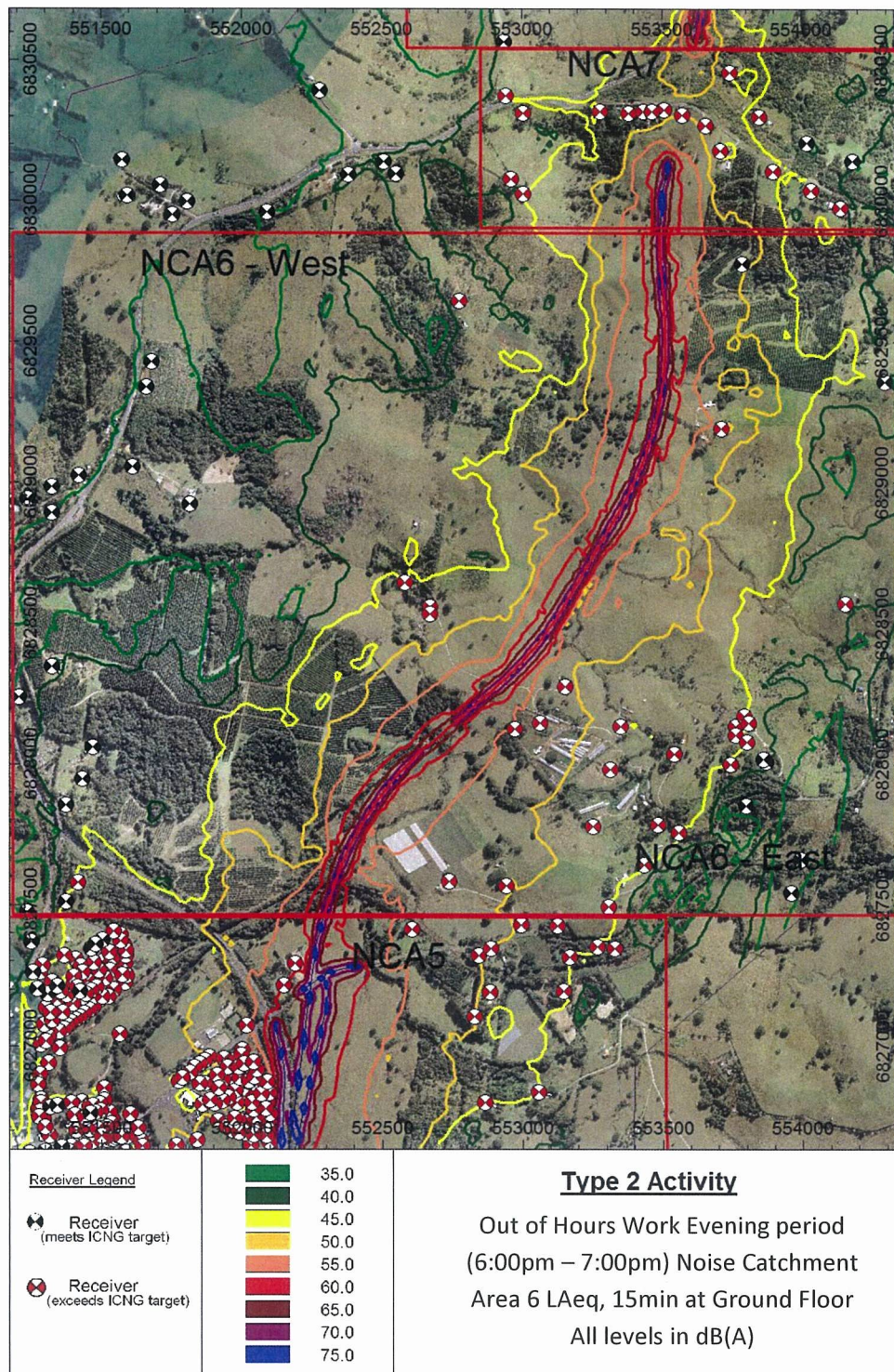




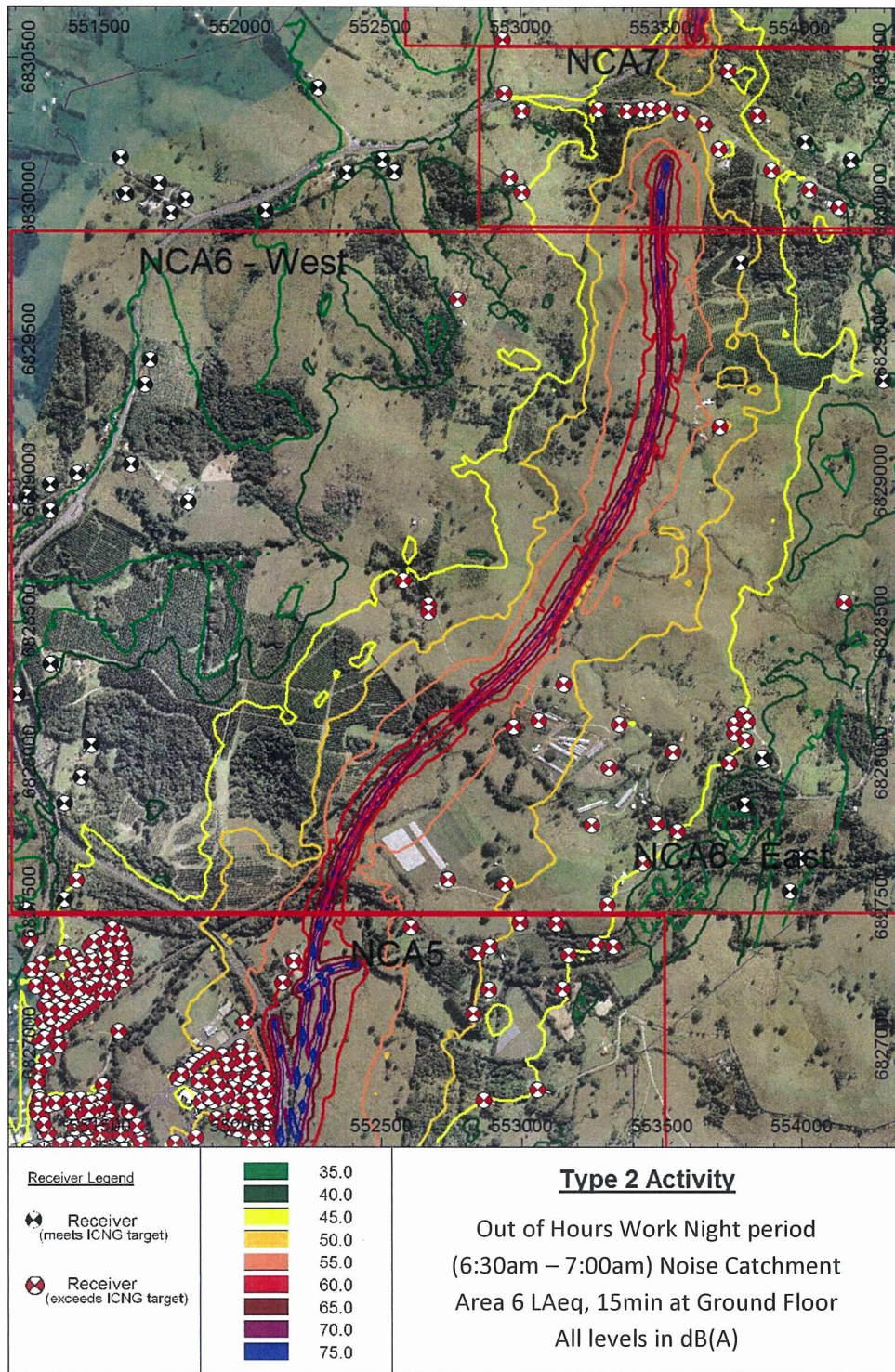




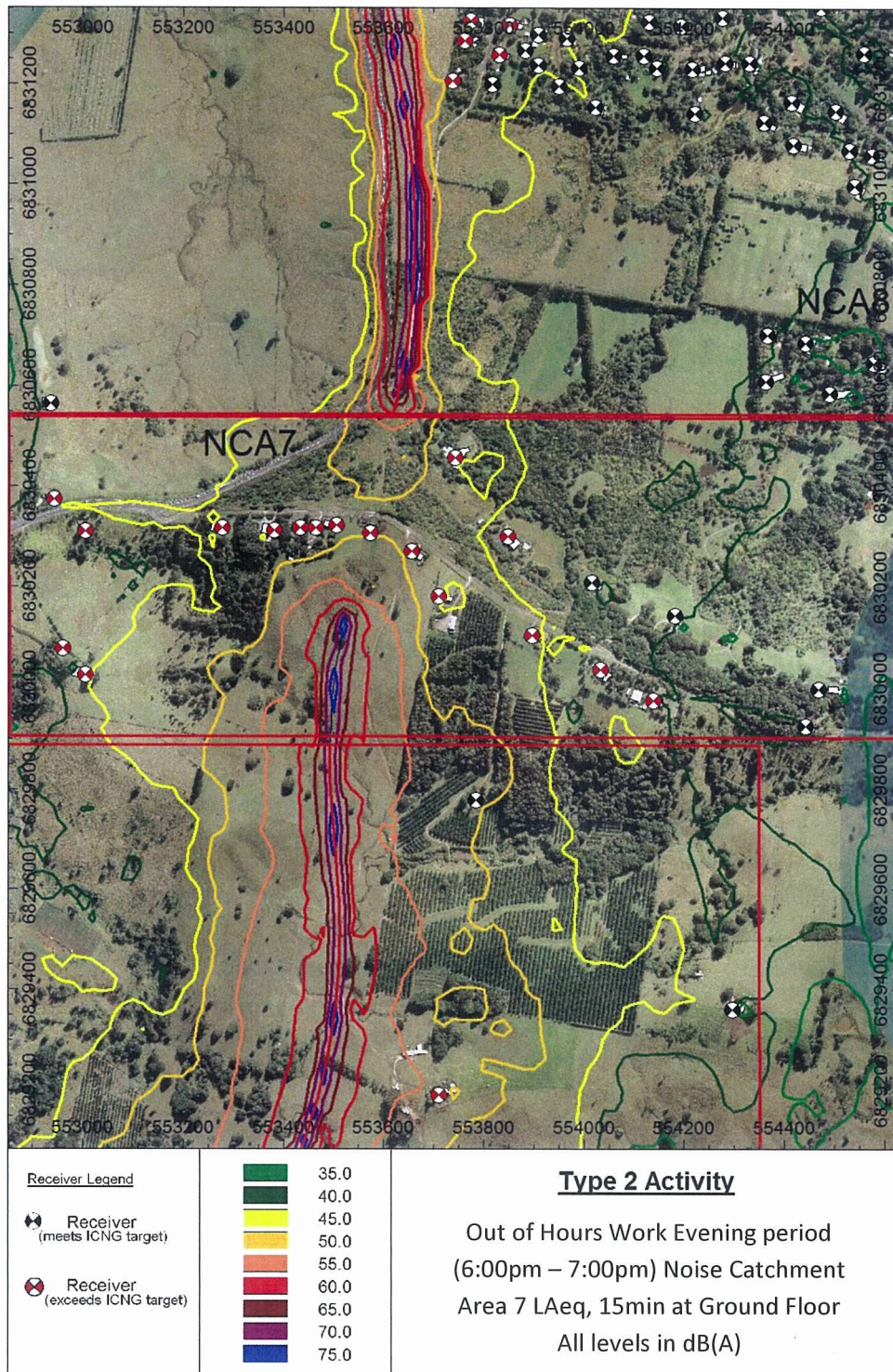




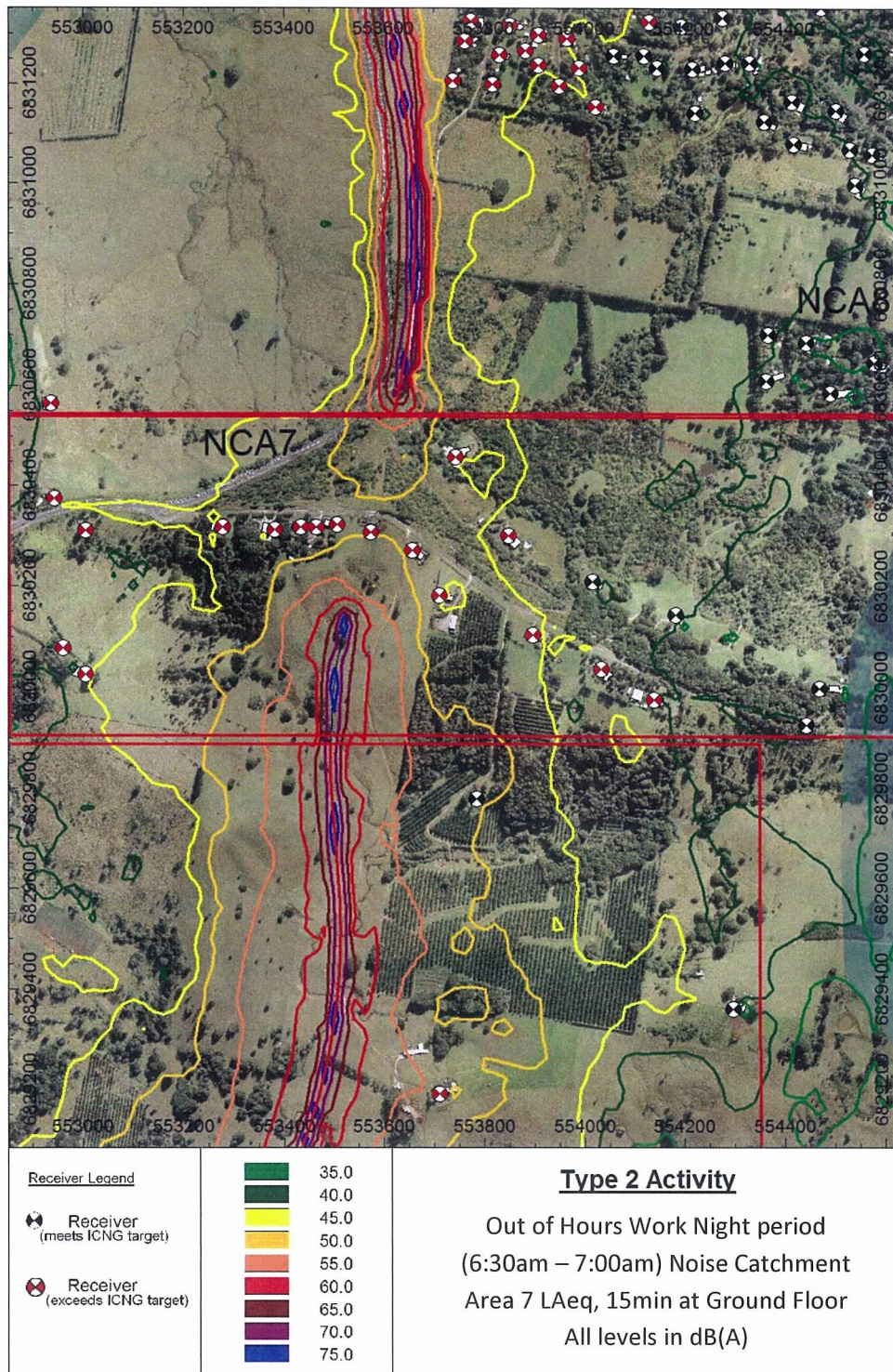




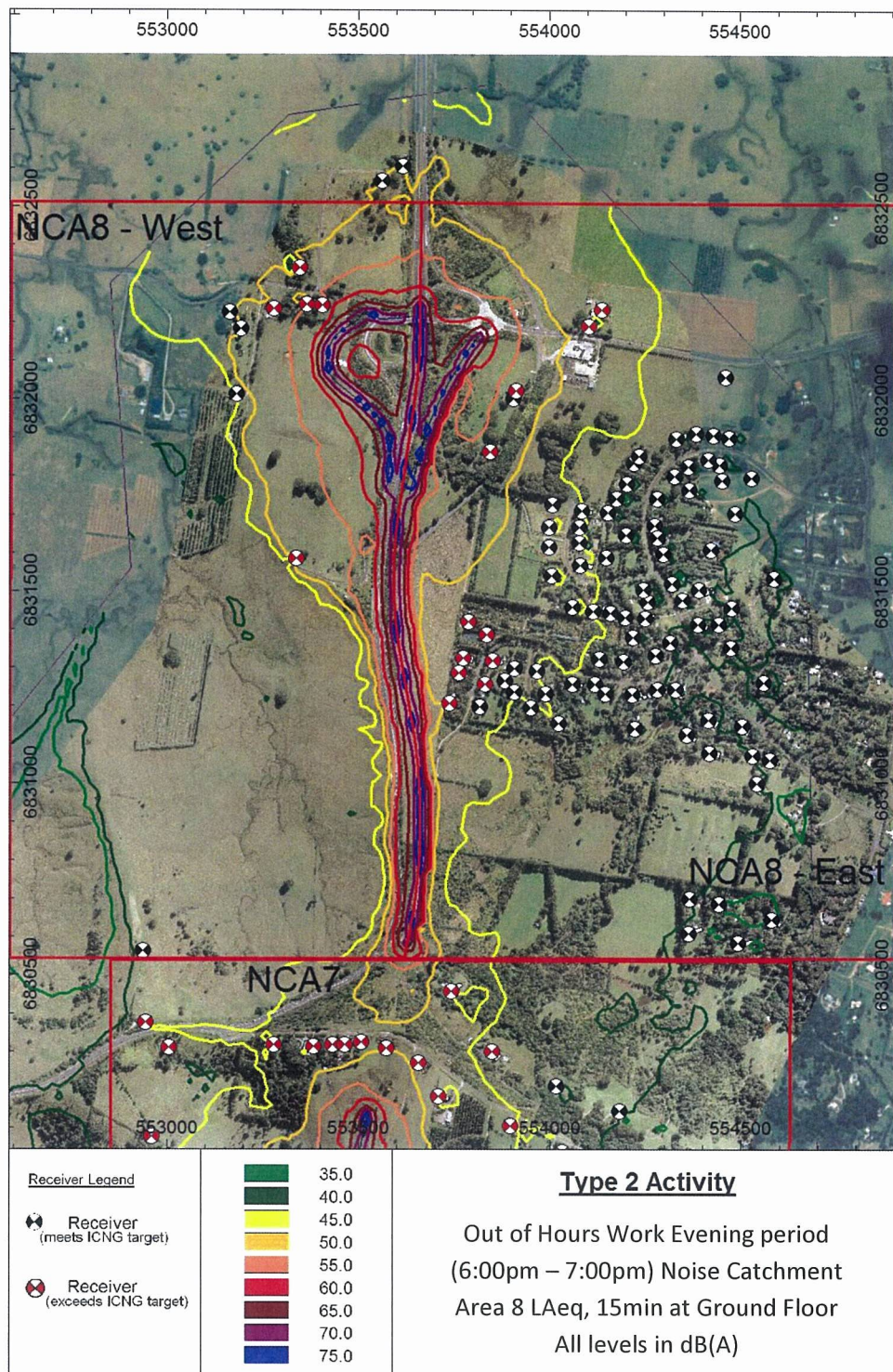




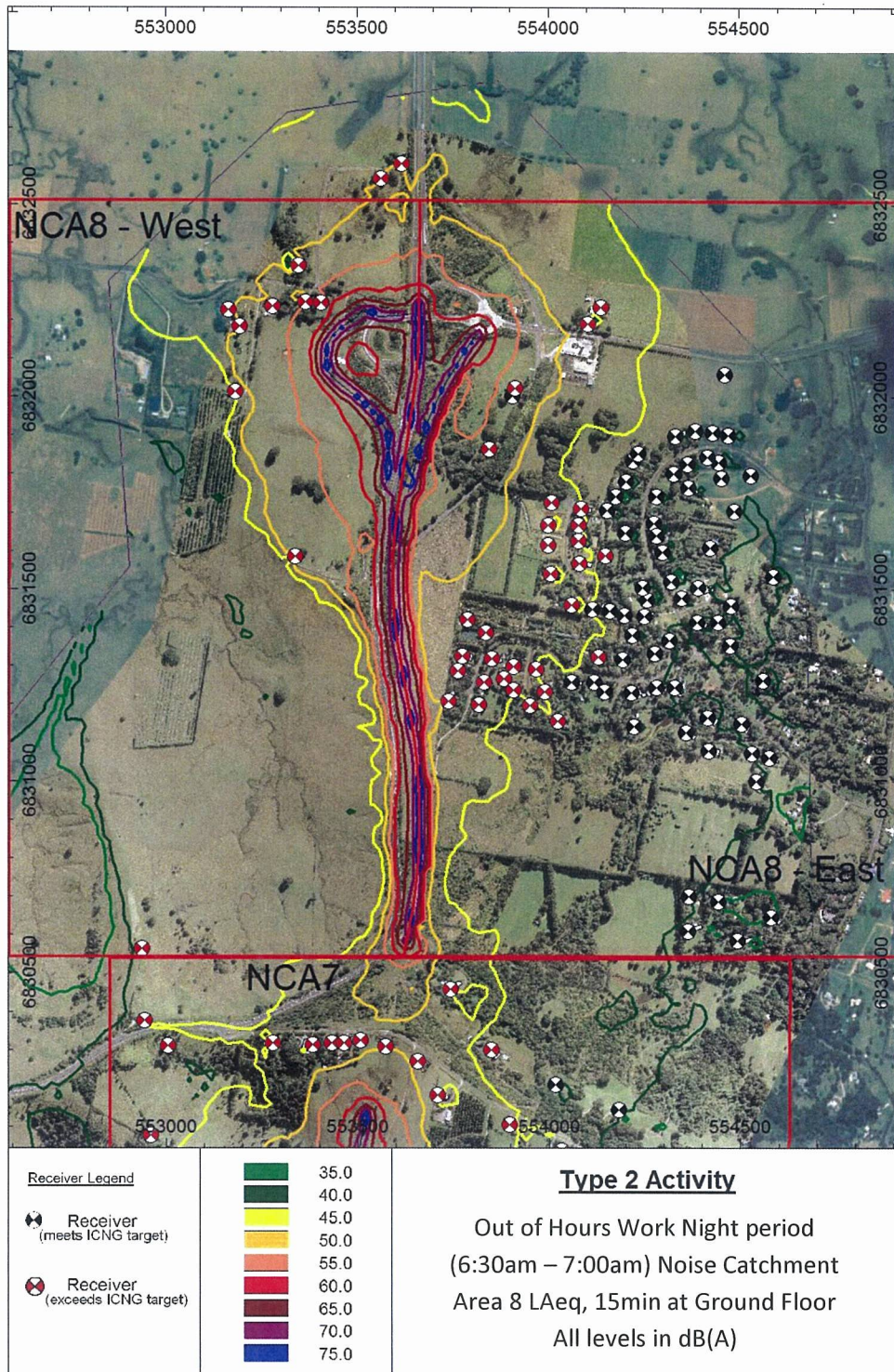






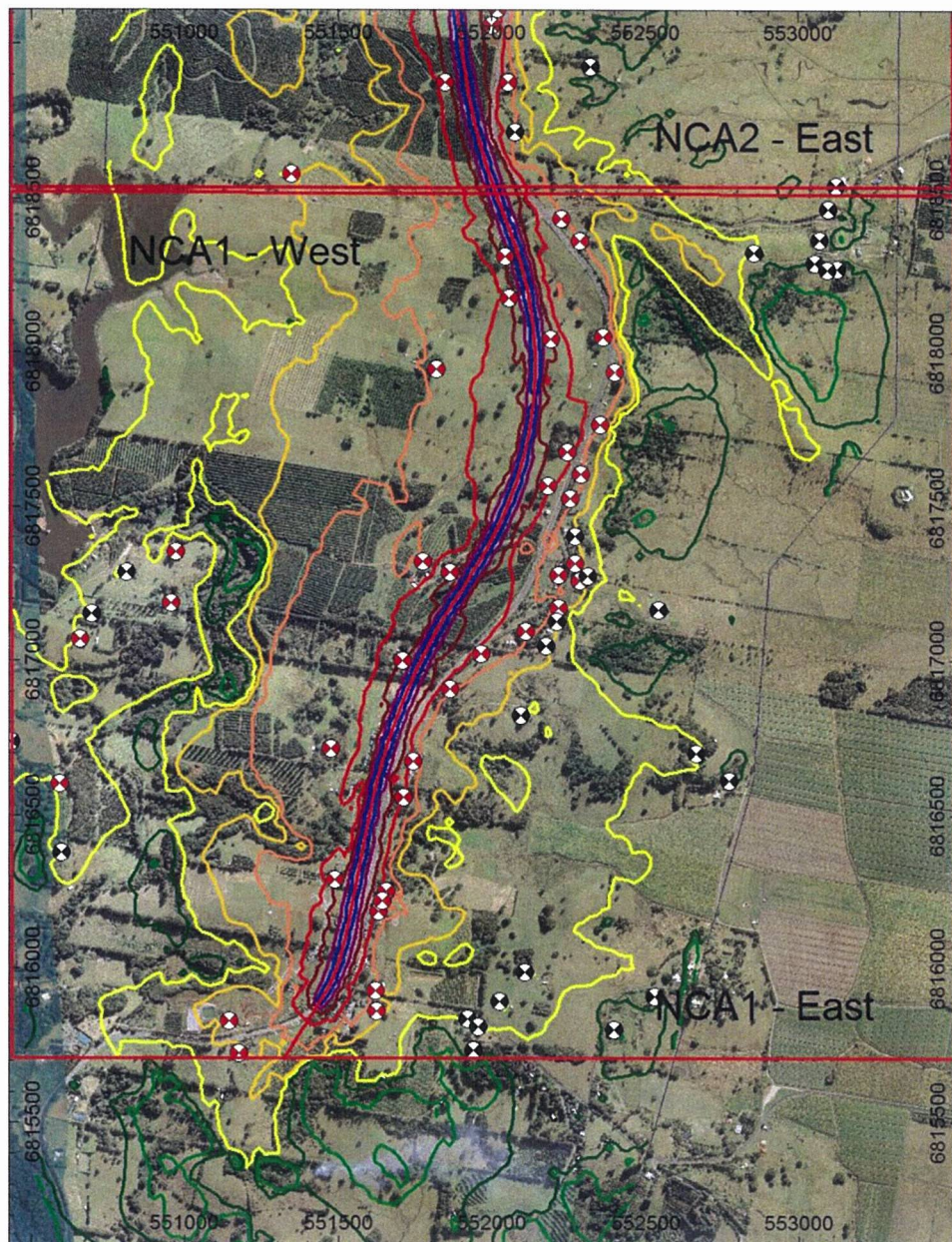






## **Appendix 6 – Evening and night time noise modeling (Type 1)**

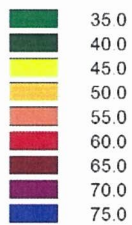




#### Receiver Legend

Receiver  
(meets ICNG target)

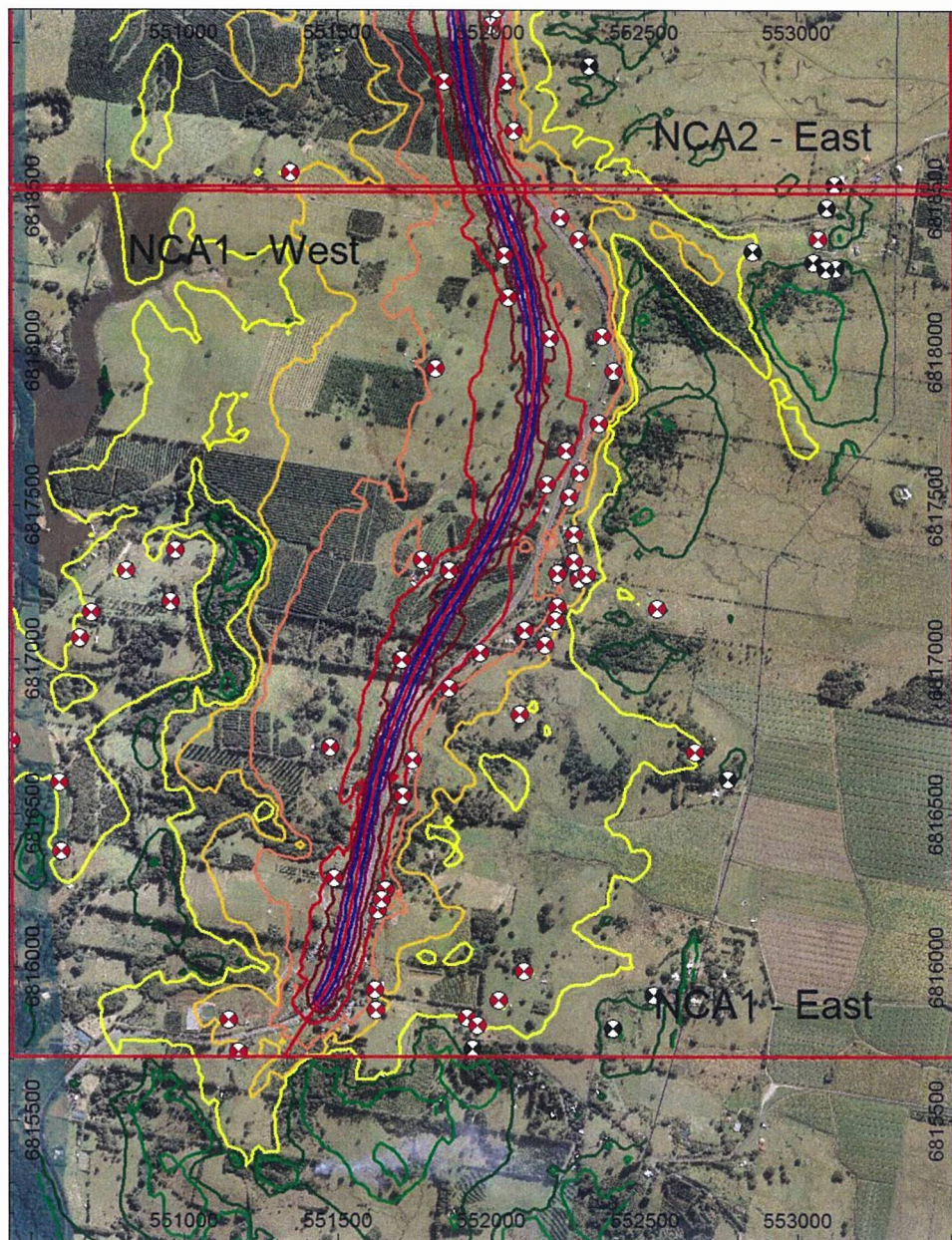
Receiver  
(exceeds ICNG target)



#### Type 1 Activity

Out of Hours Work Evening period  
(6:00pm – 7:00pm) Noise  
Catchment Area 1 LAeq, 15min at  
Ground Floor All levels in dB(A)

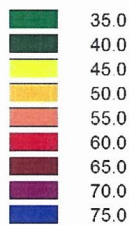




#### Receiver Legend

Receiver  
(meets ICNG target)

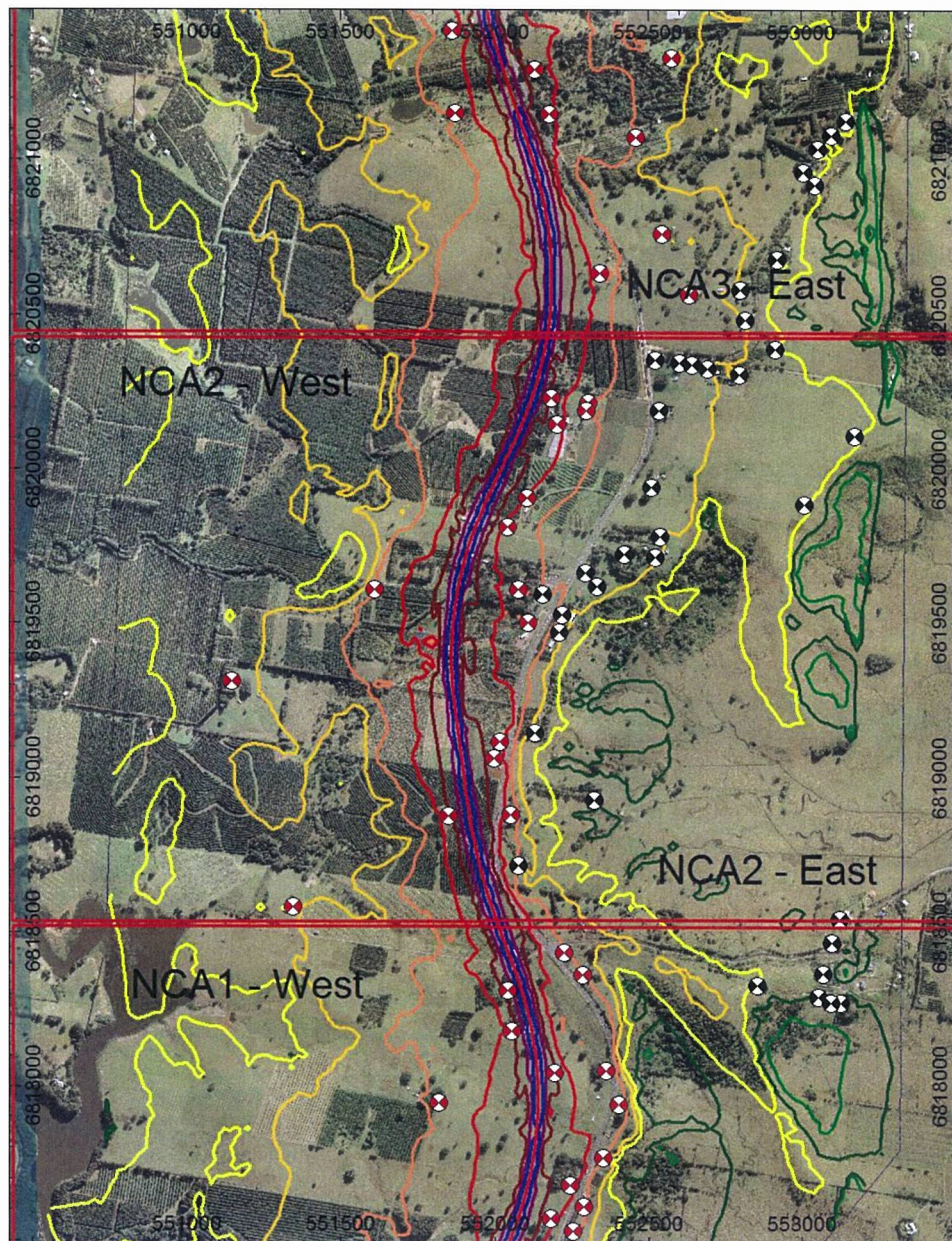
Receiver  
(exceeds ICNG target)



#### Type 1 Activity

Out of Hours Work Night period  
(6:30am – 7:00am) Noise Catchment  
Area 1 LAeq, 15min at Ground Floor  
All levels in dB(A)

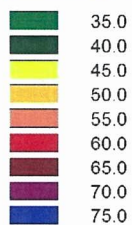




#### Receiver Legend

Receiver  
(meets ICNG target)

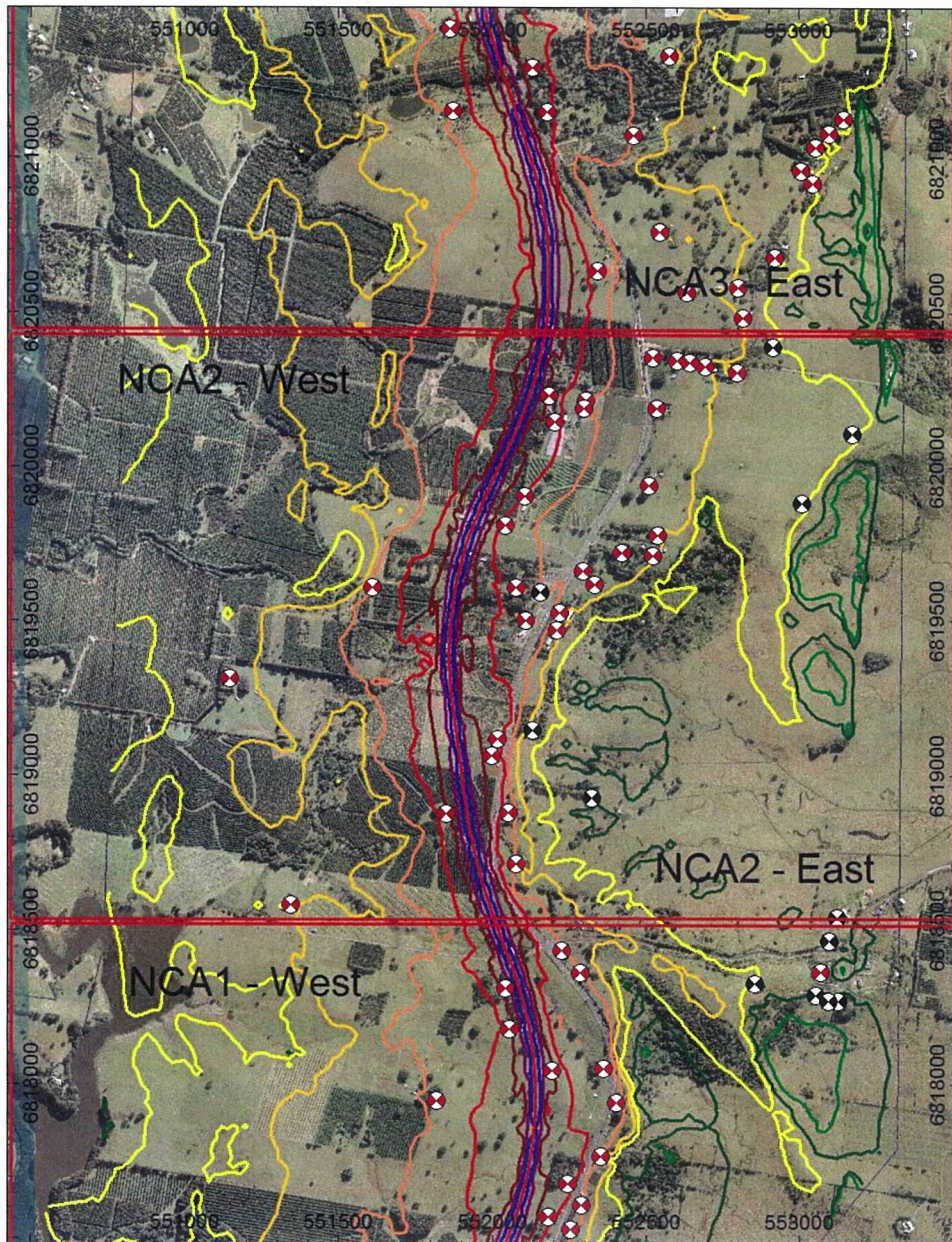
Receiver  
(exceeds ICNG target)



#### Type 1 Activity

Out of Hours Work Evening period  
(6:00pm – 7:00pm) Noise Catchment  
Area 2 LAeq, 15min at Ground Floor  
All levels in dB(A)

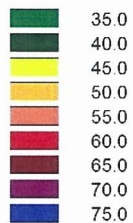




**Receiver Legend**

 Receiver  
 (meets ICNG target)

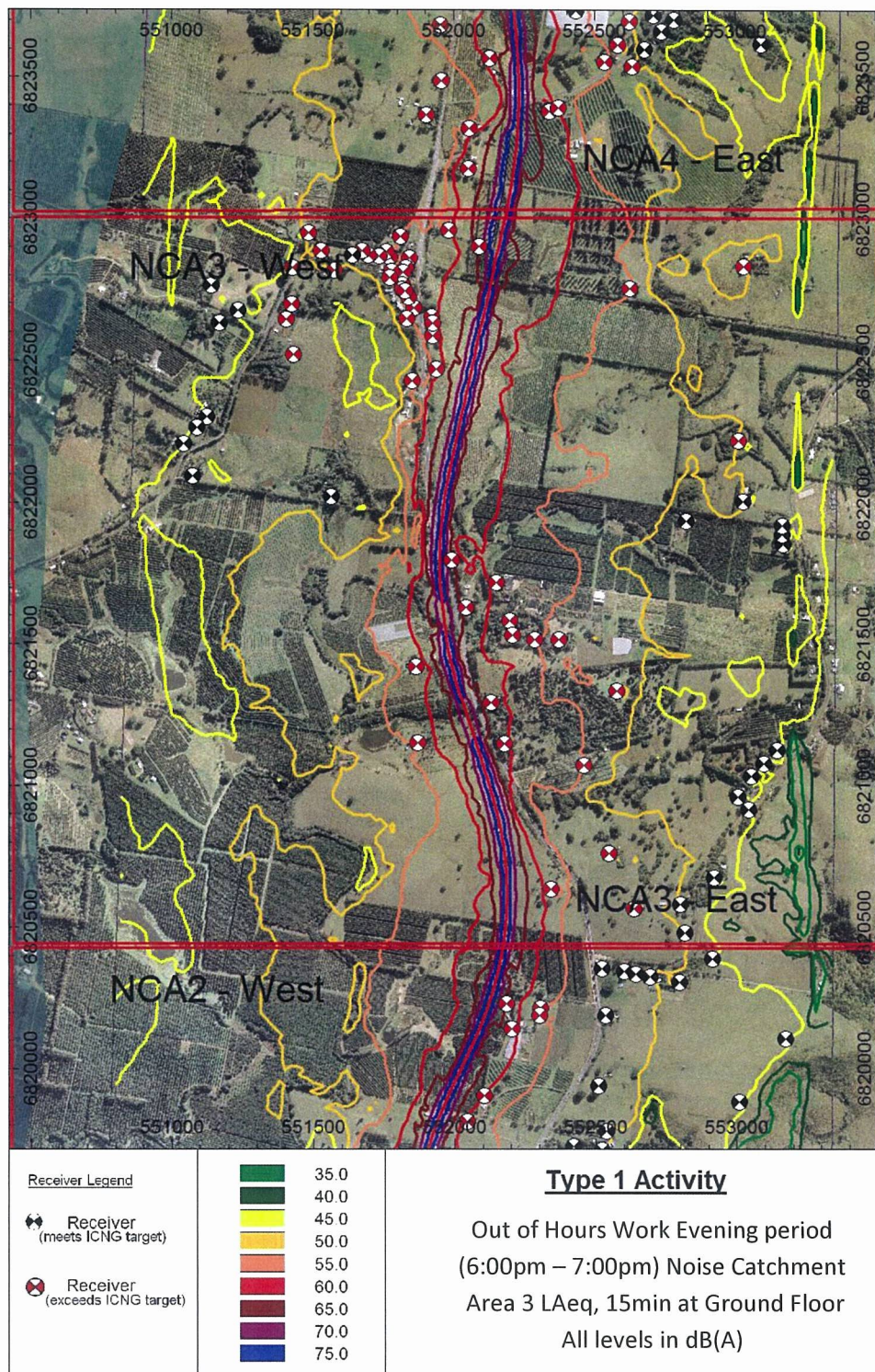
 Receiver  
 (exceeds ICNG target)



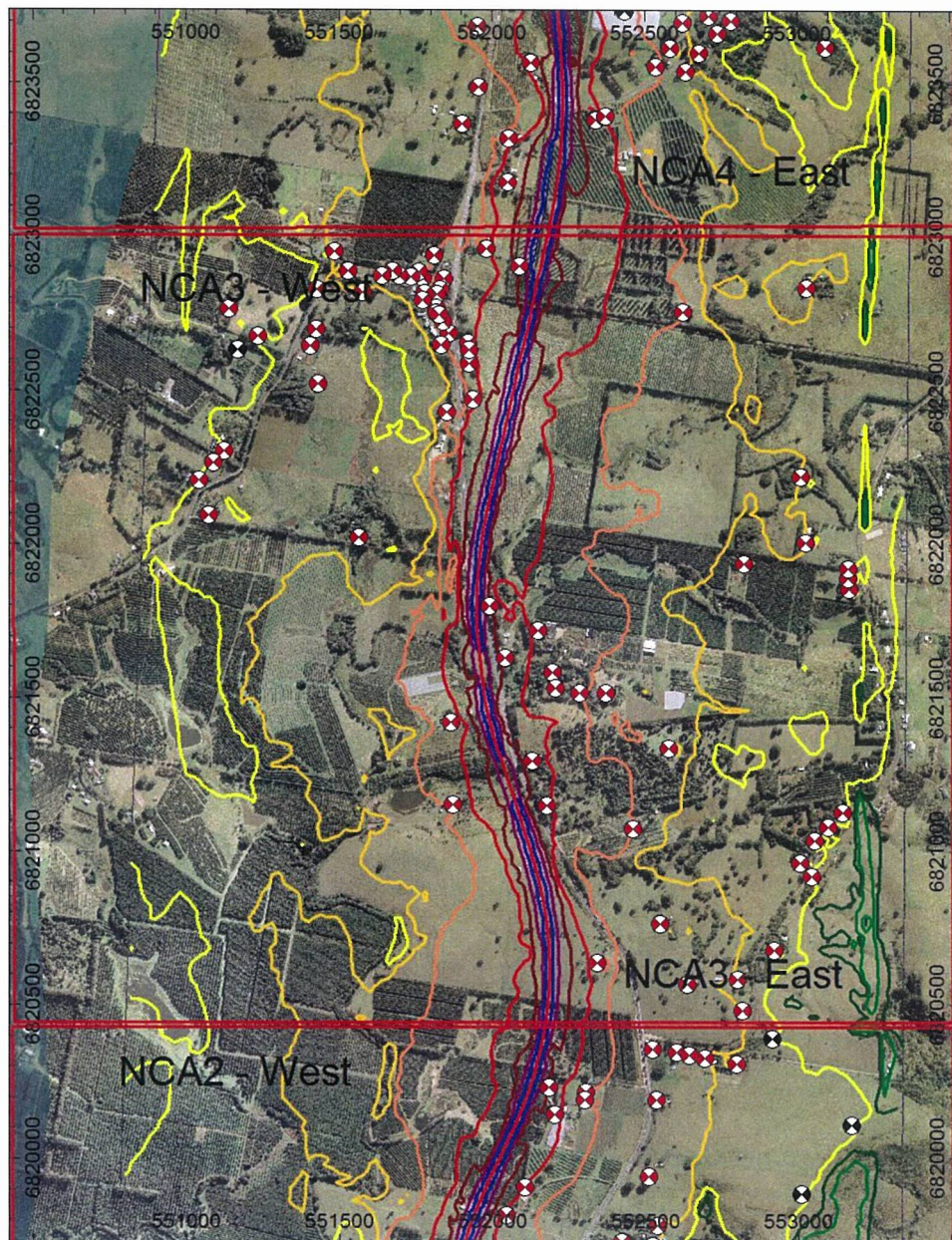
**Type 1 Activity**

Out of Hours Work Night period  
 (6:30am – 7:00am) Noise Catchment  
 Area 2 LAeq, 15min at Ground Floor  
 All levels in dB(A)





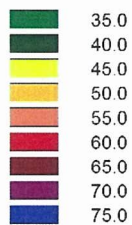




**Receiver Legend**

Receiver  
(meets ICNG target)

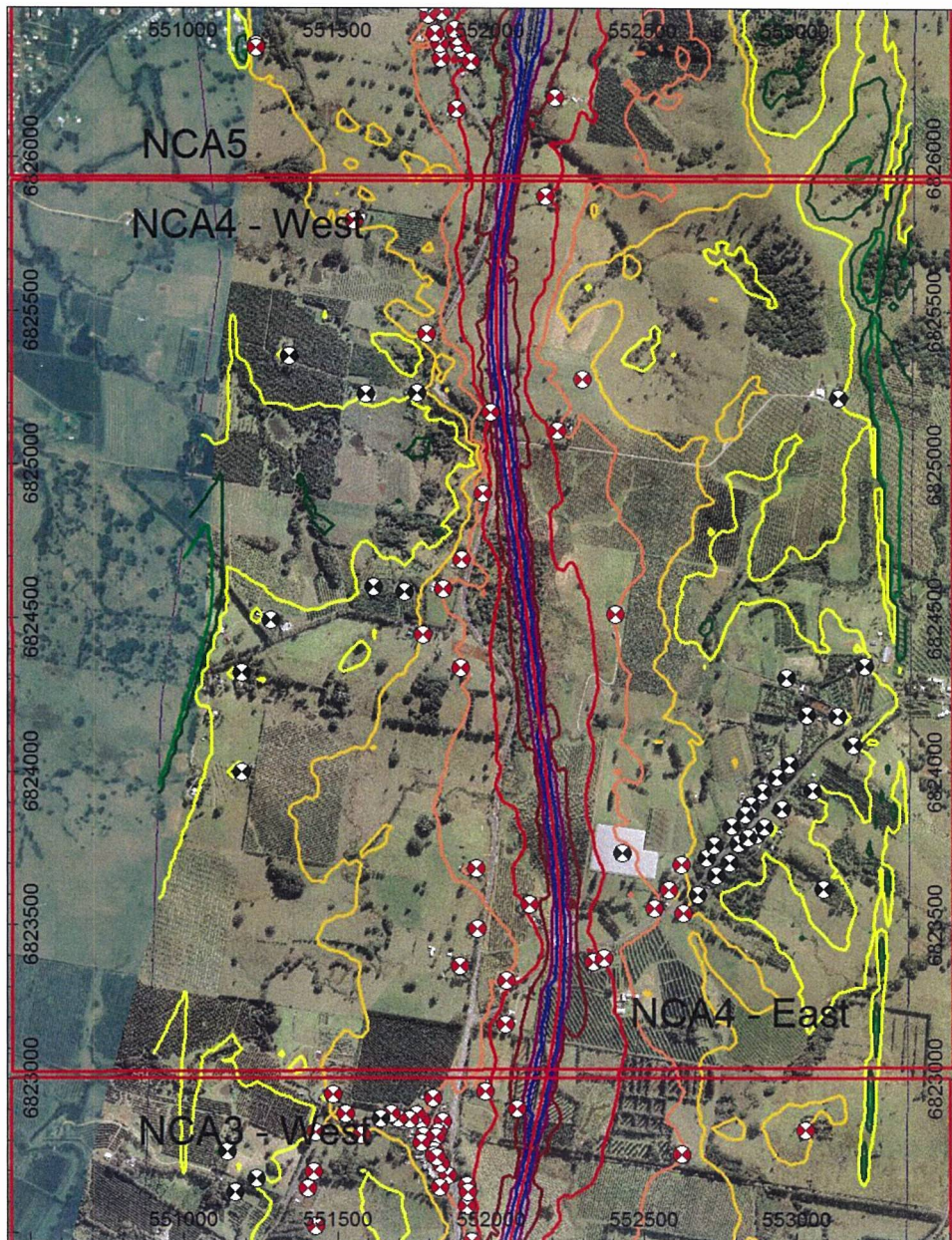
Receiver  
(exceeds ICNG target)



**Type 1 Activity**

Out of Hours Work Night period  
(6:30am – 7:00am) Noise Catchment  
Area 3 LAeq, 15min at Ground Floor  
All levels in dB(A)

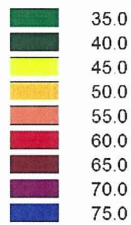




**Receiver Legend**

Receiver  
(meets ICNG target)

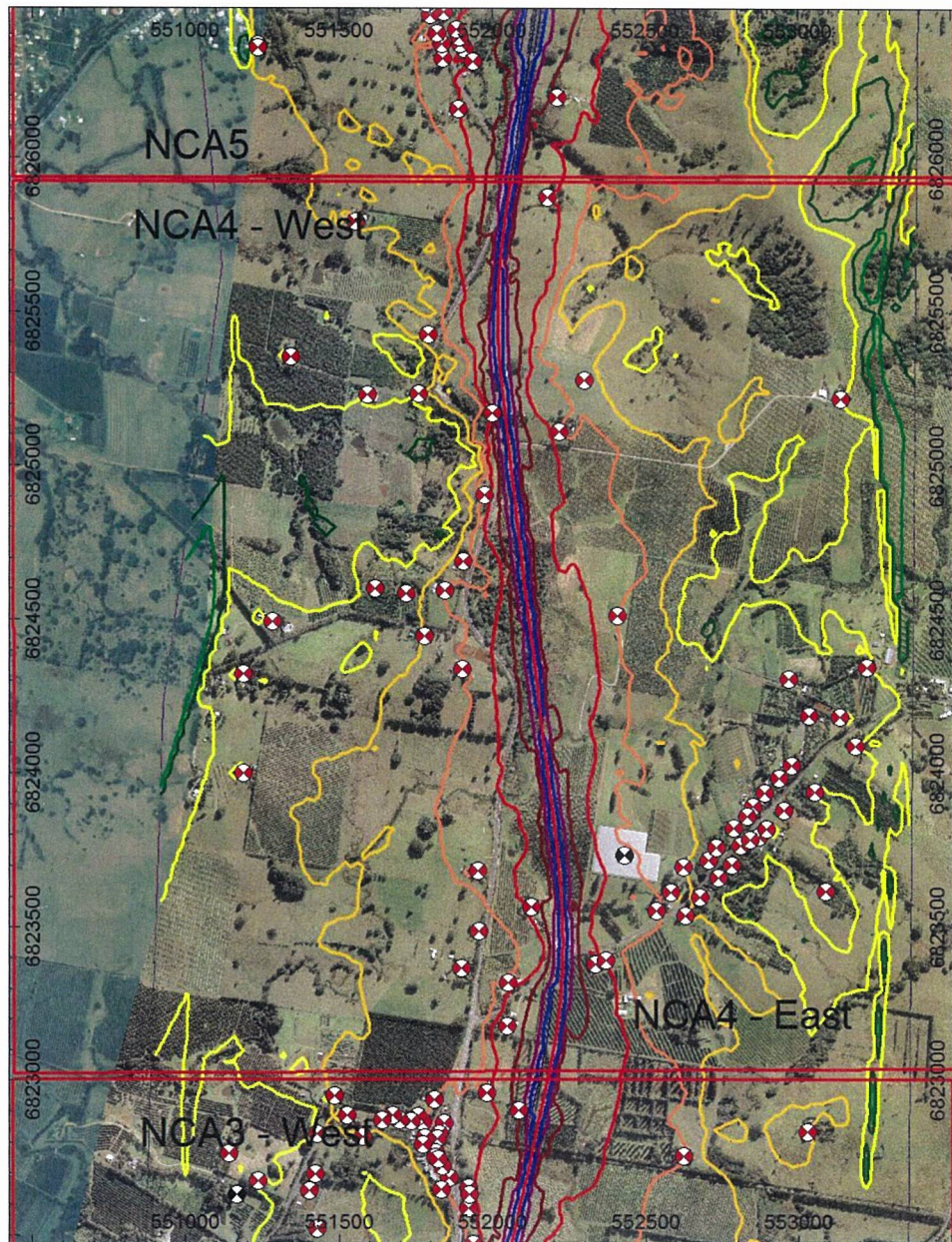
Receiver  
(exceeds ICNG target)



**Type 1 Activity**

Out of Hours Work Evening period  
(6:00pm – 7:00pm) Noise Catchment  
Area 4 LAeq, 15min at Ground Floor  
All levels in dB(A)

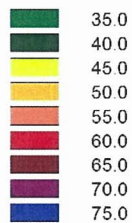




#### Receiver Legend

Receiver  
(meets ICNG target)

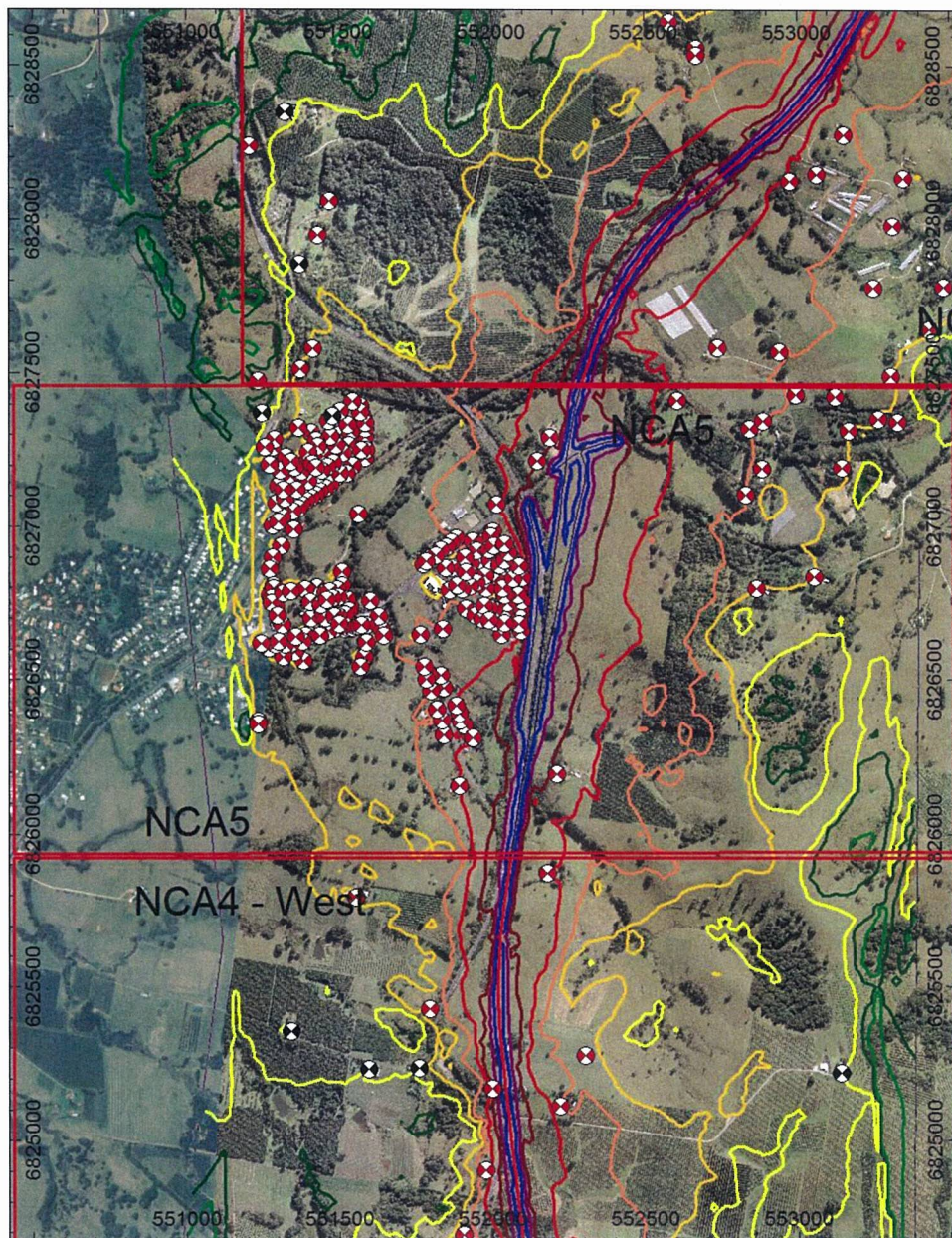
Receiver  
(exceeds ICNG target)



#### Type 1 Activity

Out of Hours Work Night period  
(6:30am – 7:00am) Noise Catchment  
Area 4 LAeq, 15min at Ground Floor  
All levels in dB(A)

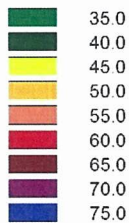




#### Receiver Legend

Receiver  
(meets ICNG target)

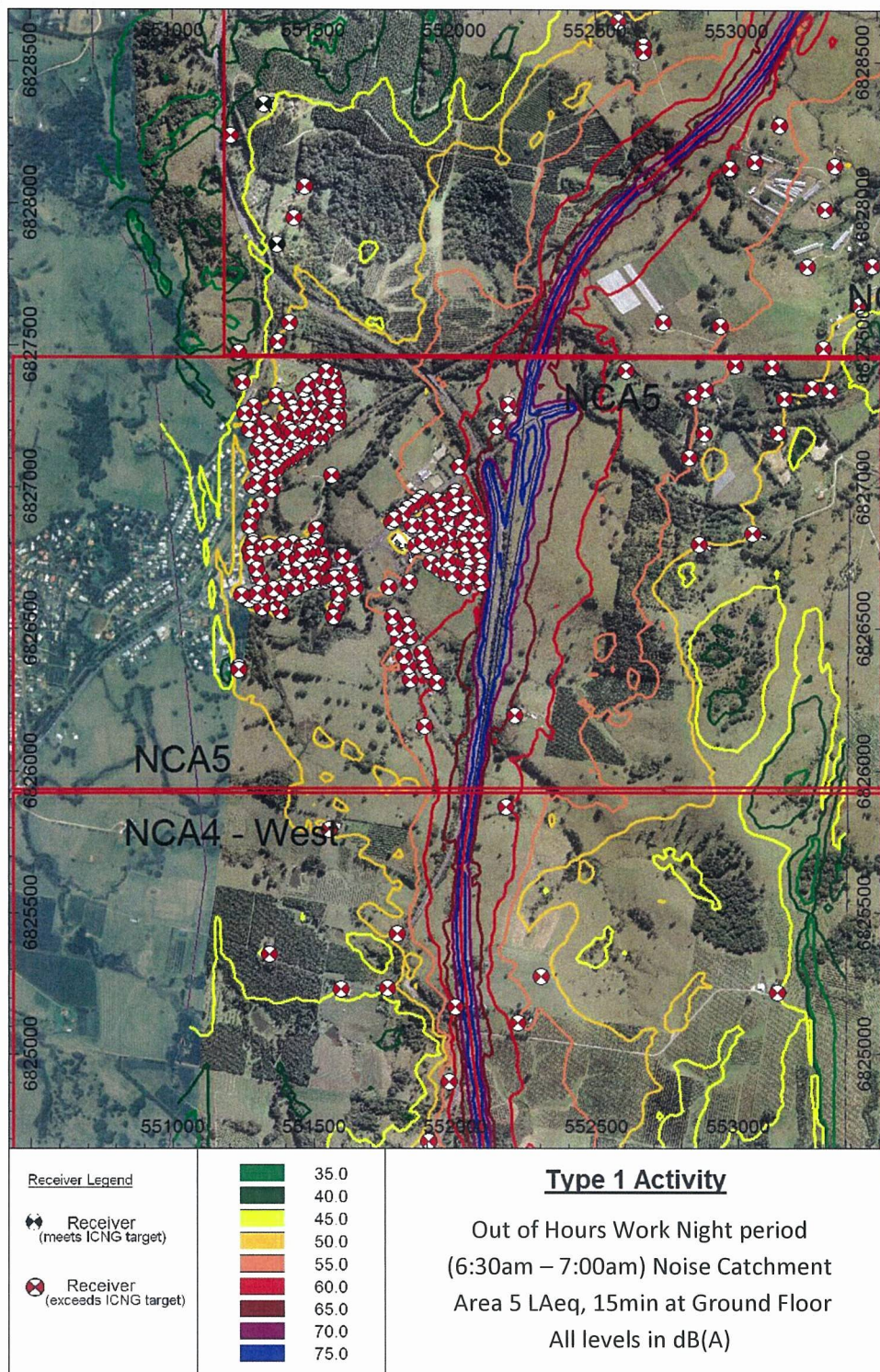
Receiver  
(exceeds ICNG target)



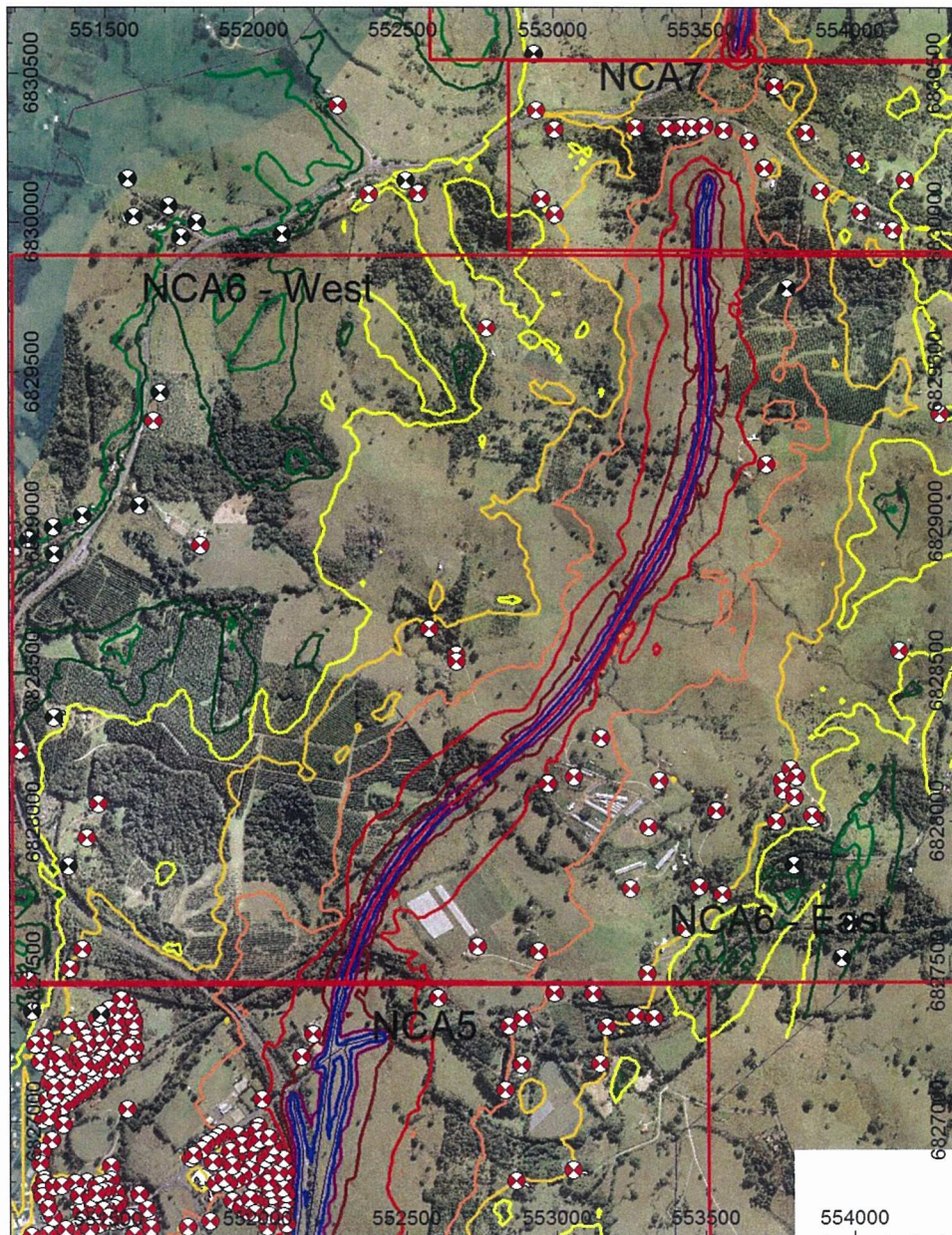
#### Type 1 Activity

Out of Hours Work Evening period  
(6:00pm – 7:00pm) Noise Catchment  
Area 5 LAeq, 15min at Ground Floor  
All levels in dB(A)





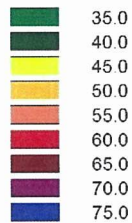




**Receiver Legend**

Receiver  
(meets ICNG target)

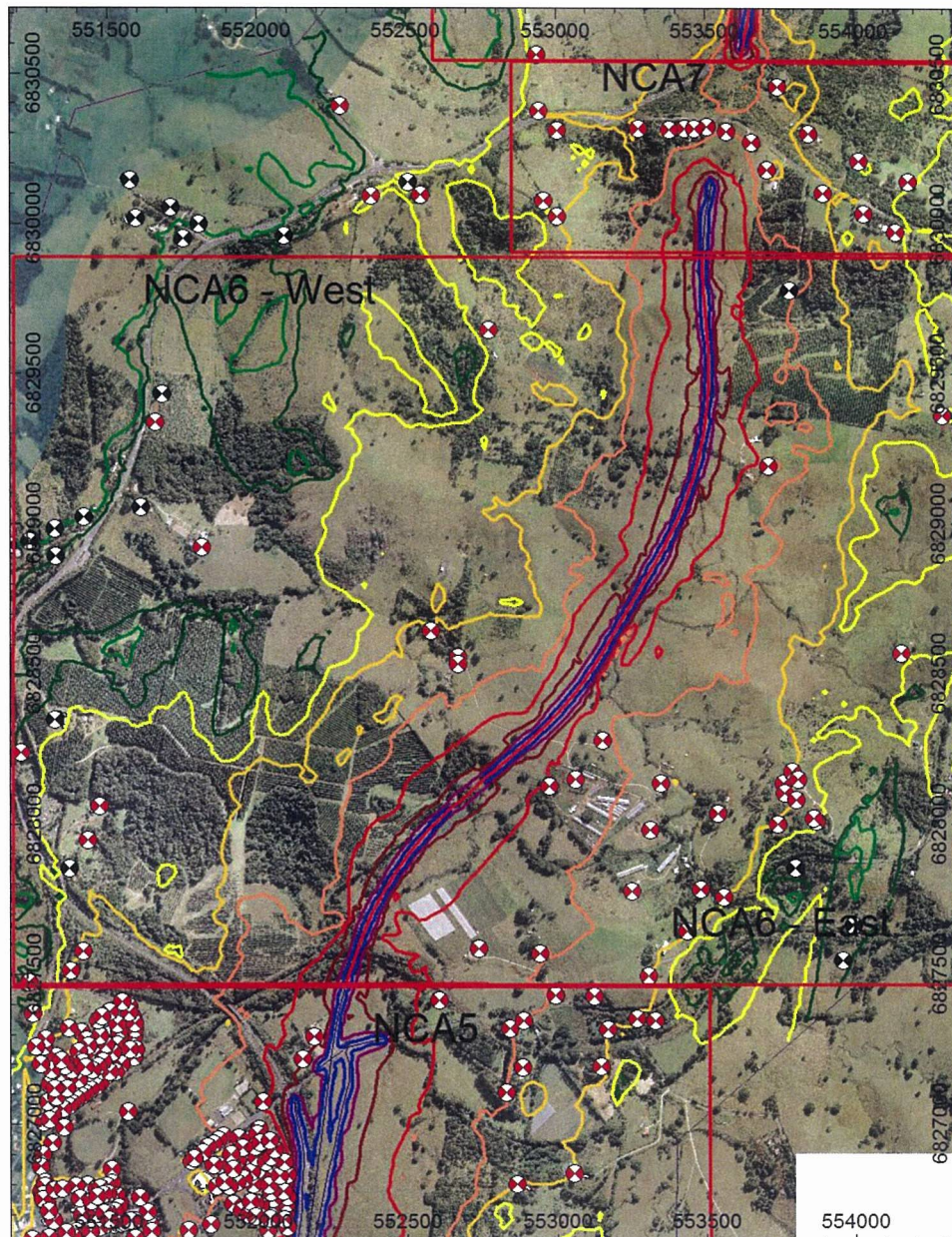
Receiver  
(exceeds ICNG target)



**Type 1 Activity**

Out of Hours Work Evening period  
(6:00pm – 7:00pm) Noise Catchment  
Area 6 LAeq, 15min at Ground Floor  
All levels in dB(A)

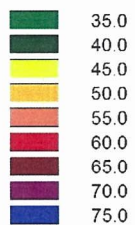




**Receiver Legend**

Receiver  
(meets ICNG target)

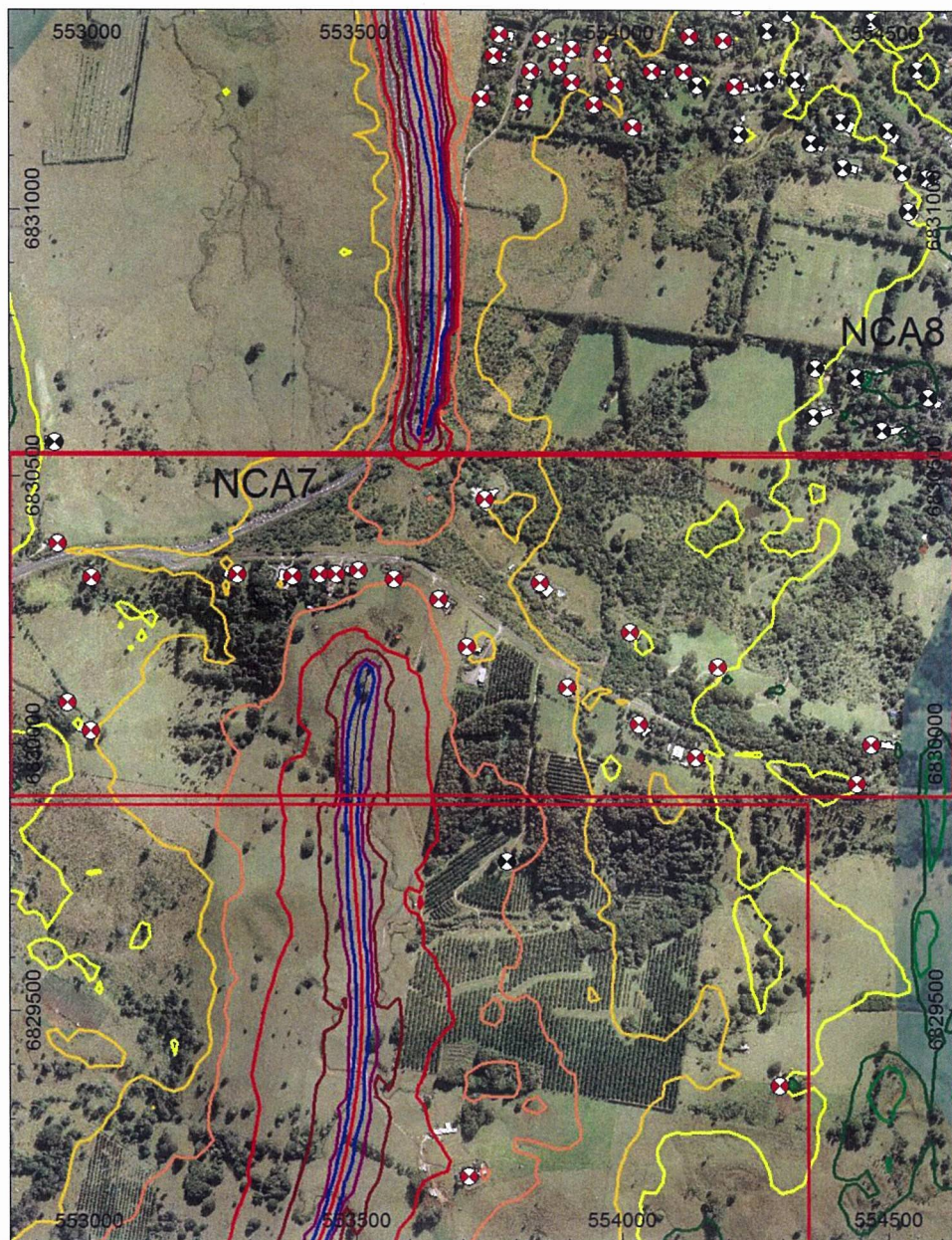
Receiver  
(exceeds ICNG target)



**Type 1 Activity**

Out of Hours Work Night period  
(6:30am – 7:00am) Noise Catchment  
Area 6 LAeq, 15min at Ground Floor  
All levels in dB(A)

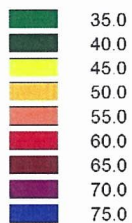




**Receiver Legend**

✖ Receiver  
(meets ICNG target)

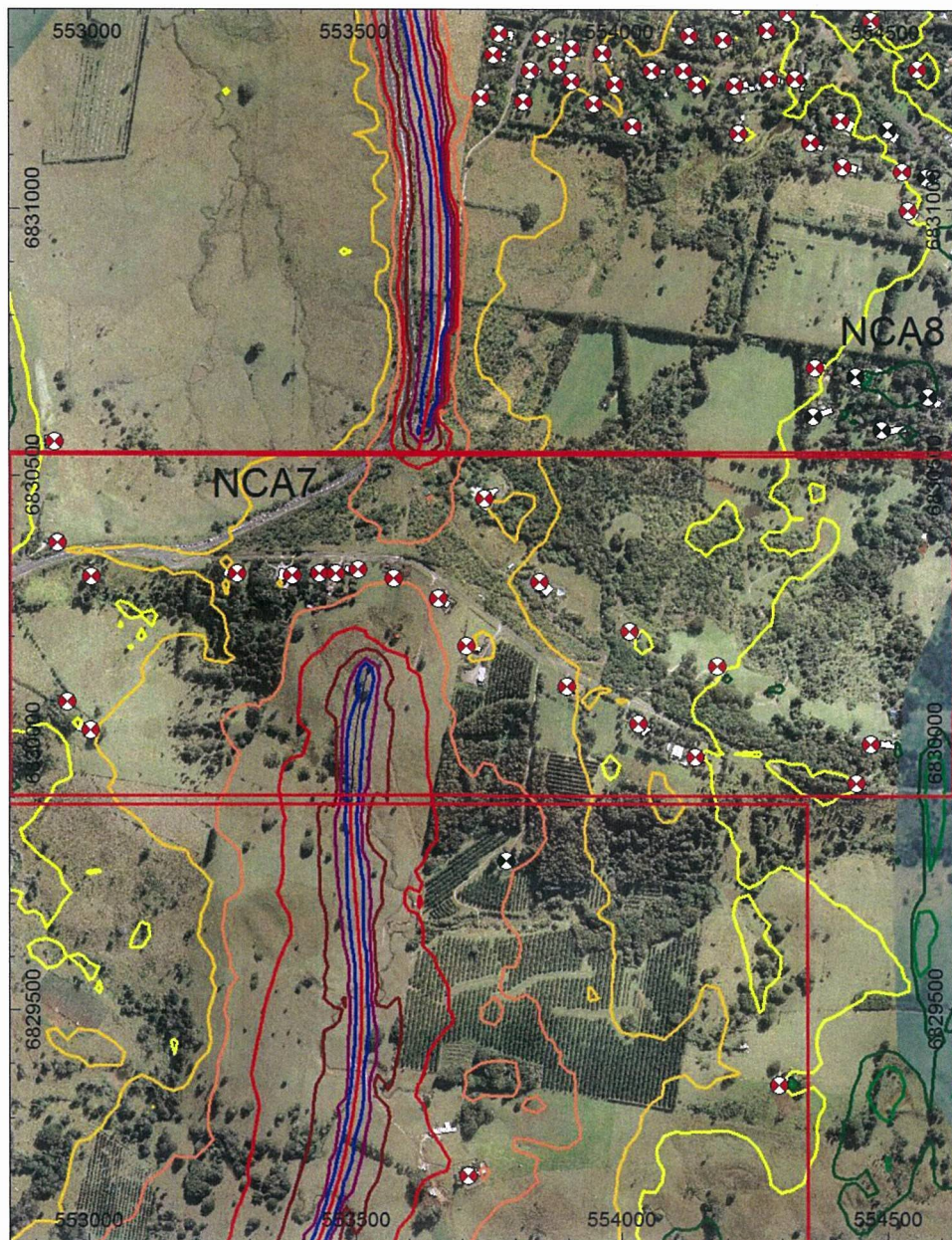
✖ Receiver  
(exceeds ICNG target)



**Type 1 Activity**

Out of Hours Work Evening period  
(6:00pm – 7:00pm) Noise Catchment  
Area 7 LAeq, 15min at Ground Floor  
All levels in dB(A)

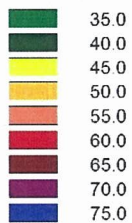




#### Receiver Legend

Receiver  
(meets ICNG target)

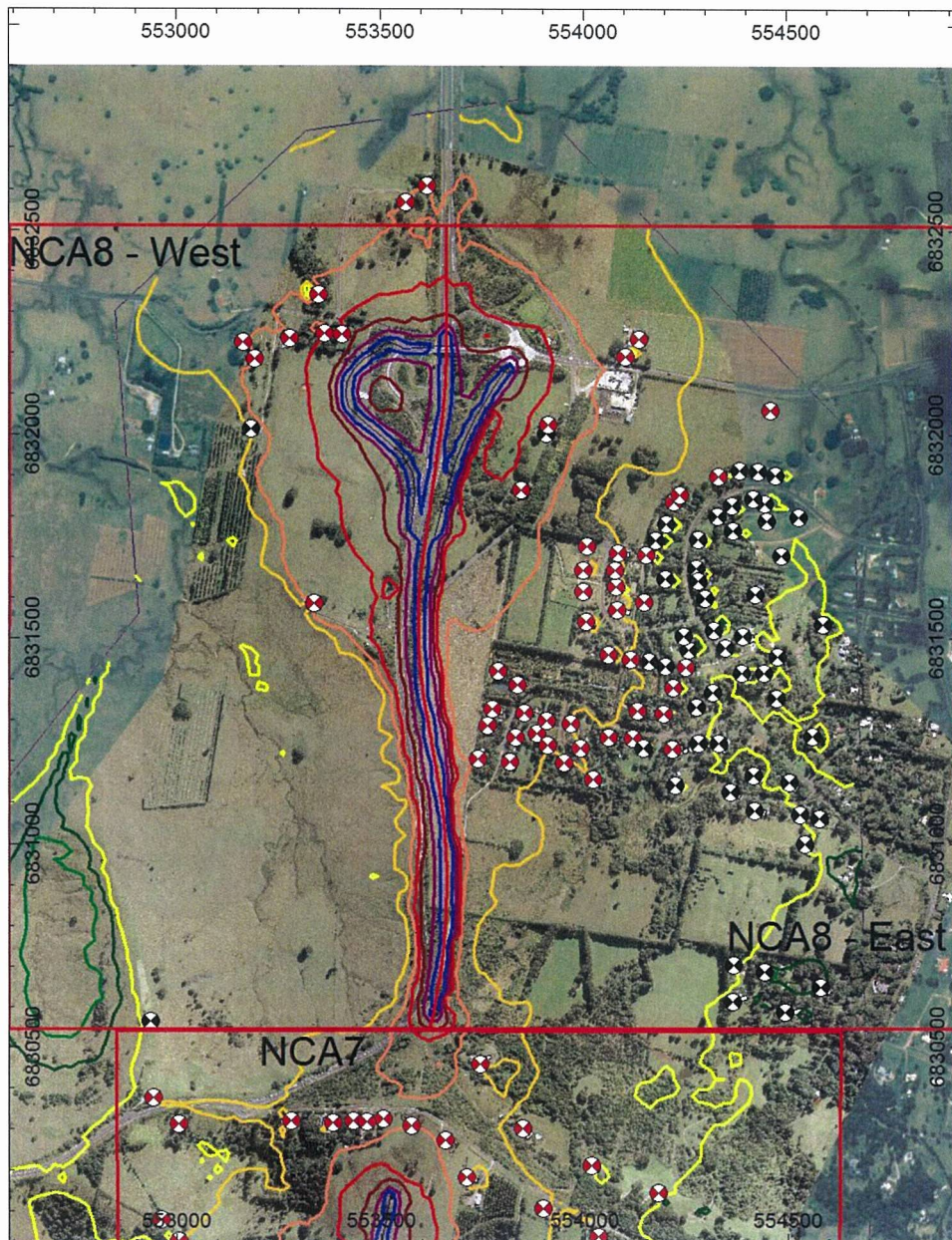
Receiver  
(exceeds ICNG target)



#### Type 1 Activity

Out of Hours Work Night period  
(6:30am – 7:00am) Noise Catchment  
Area 7 LAeq, 15min at Ground Floor  
All levels in dB(A)

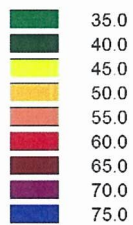




#### Receiver Legend

Receiver  
(meets ICNG target)

Receiver  
(exceeds ICNG target)



#### Type 1 Activity

Out of Hours Work Evening period  
(6:00pm – 7:00pm) Noise Catchment  
Area 8 LAeq, 15min at Ground Floor  
All levels in dB(A)



