

Kholo Creek Road Transport Study Submission

Submitted by: SIRA Inc.
Printed: 27 May, 2003

SIRA Inc.

Stop Industrialisation of Residential Areas

SIRA Inc

May 25th 2003

Mr. Nev Hore
Chair, Kholo Creek Hardrock Resource Advisory Panel
c/ Department of State Development
P.O. Box 168
BRISBANE ALBERT STREET QLD 4002

Dear Sir,

Re: Kholo Creek Hard Rock Resource Transport Study

The attached submission is SIRA's response to the Parsons Brinkerhoff (PB) Report on the Kholo Creek Hard Rock Resource Transport Study.

The grounds for this submission are that the Parsons Brinckerhoff Report lacks veracity, does not bear scrutiny and therefore SIRA, as the community's representative, has no confidence in the findings of the study.

Our response is presented in three parts:

Part 1 Overview - A summary of where SIRA found the Report to be deficient

Part 2 Detailed response - Non-exhaustive list of issues

Part 3 Conclusion -SIRA's findings.

It should be noted that in an attempt to improve the report, SIRA has raised and documented significant issues and concerns with the Report on a number of occasions at KCAP meetings. SIRA has also advised of sections missing from the report and to date there is still one missing section.

The Department of State Development has had ample opportunity to have these concerns addressed in the interests of producing a sound document, upon which further studies or recommendations could be made. However, no action has been taken and consequently a substandard incomplete report has been released to the public.

SIRA suggests that the Report has not determined the holistic acceptability and appropriateness of the haul route option proposed, and contends that the risk to Brisbane's water supply is too serious to allow construction of a haul road within the BCC water reserve.

SIRA further suggests that the Report should have concluded that none of the proposed routes meet the requirement of feasibility as required by the Terms of Reference.

Yours faithfully,

Greg Riding
President SIRA INC.

Table of Contents

Overview	4
Detailed Response	5
Terms of Reference	5
Rankings Methodology	6
Noise Analysis	7
Community Consultation	9
Character and Amenity of Area.....	10
Dust and Fumes	11
Vegetation	11
Community Severance	12
Engineering Assumptions	13
BCC Water Reserve	14
Conclusion	15
Attachments.....	16

Overview

SIRA has reviewed the Parsons Brinckerhoff (PB) Report and collated major issues by subject matter. SIRA raises concerns as follows:

- The Terms of Reference are not met;
- The rankings methodology has not produced a meaningful outcome;
- The noise analysis is fundamentally flawed;
- Community consultation has not been carried out as required and does not contribute to report findings;
- The character and amenity of the area is not properly considered;
- The matter of dust and fumes is poorly evaluated;
- The vegetation survey has not properly evaluated the “Of concern” and “Endangered” regional ecosystems traversed by haul routes;
- Community severance is not fully identified and evaluated;
- Some engineering assumptions appear incorrect or baseless;
- Traversal of BCC water reserve, produces risks that have not been adequately addressed.

SIRA advises that one section of the Report is still missing from all hard copy and electronic versions of the report, i.e., Appendix B section “Preliminary Estimate” containing detail of haul road construction costs.

Detailed Response

SIRA's detailed response is presented below by subject matter with references to relevant sections of the PB Report.

Terms of Reference

The Terms of Reference required PB to review previous work undertaken with regard to the route options, and confirm their overall feasibility (Appendix A, page 8, para 5, also mentioned in the Ch. 1, Page 1, para 4). SIRA can find no mention in the PB Report of this review and resulting overall feasibility, other than the concerns listed in Ch 3.1.5.1, page 7. SIRA would expect to find a chapter entitled "Review of previous studies".

Further, the Terms of Reference required PB to determine an appropriate road alignment with adequate buffers (Appendix A, page 8, para 7). The Report does no more than compare a number of routes previously suggested, apparently by Boral (no definitive reference), and recommends a preferred option (Ch. 9, page 75, para 1).

The Terms of Reference required PB to consult with the owners of all properties located within 500 metres of haul route centre lines (Appendix A, page 10, para 5) and allows for this distance to be increased at the direction of the project manager. The Report states that PB in fact only contacted property owners within 250 metres of haul route centre lines (Ch. 6.5.2.1, page 60, para 3).

The Terms of Reference required that PB investigate the stability of the banks of the Brisbane River and any detrimental effect that riverbank instability may have on the quality of water at the weir (Appendix A, page 10, para 3.2). The Report notes that the requirement to investigate riverbank stability was removed (Ch. 1, page 1, para 9), but does not advise who authorised this. SIRA advises that this removal was certainly not sanctioned by KCAP.

The Terms of Reference required that PB Report on community safety relating to recreational water users (Appendix A, page 9, para 6.7). This was not addressed.

In the Terms of Reference, PB was required to provide affected property owners with written confirmation of all discussions (Appendix A, page 11, para 1.1). SIRA would expect evidence of this feedback to have been appended to the Report. SIRA has received numerous complaints that the community has not received feedback. The community thus has no way of evaluating whether survey results have been adequately incorporated into the Report.

The Report states that the consultant will be expected to consult property owners within 500m of the “anticipated appropriate road alignment”. SIRA reasonably expects that this feedback would contribute to selection of an appropriate alignment; therefore the community consultation process should in fact have been applied to all routes examined.

It is mentioned in Appendix A, page 11 para 3.8, under Project Resources that the corridor land ownership list was not exhaustive, however, SIRA would have expected that the Terms of Reference imply that all land owners be identified (Appendix A, page 10, last para) for the purposes of consultation.

Rankings Methodology

The PB Report ranks only 8 issues that were distilled from a brief advisory panel workshop (Ch 7.1, page 66). The panel was not advised at the time of the significance that this selection and ranking methodology would play in the study process.

Individual rankings in the PB Report often appear to be allocated on a subjective and arbitrary basis with no substantiation given of values adopted. These rankings are then combined, by unidentified mathematical processes, to determine an overall score, for example, Tables 4.14 through 4.20 (pages 32..36). Superficially these tables appear to lend credibility to the Report, whereas in fact they may mean nothing at all.

Overall scores are then moderated via the highly subjective final rankings matrix (Ch 7.3, page 67) derived from the value management workshop, to achieve an outcome. In SIRA's opinion this does not represent sound, scientific methodology. The haul route evaluation achieved using this process (Table 8.1, page 70) lacks credibility.

Noise Analysis

Noise impacts for haul routes are based on an obviously incorrect number of truck movements per day (Appendix C, page 6, para 4) taken from table 3.1, which is copied from Ch 3.1.6. This fails to recognise returning empty trucks, which doubles the maximum number of truck movements to 1428, i.e. approximately one truck every 30 seconds on average.

It also assumes that noise emissions from the haul route are relatively constant, (Appendix C, page 6, para 4) ignoring differences in noise generation, ascending/descending hills, use of exhaust brakes, etc. It also ignores the approximate doubling in sound volume, which will occur when trucks traveling in opposite directions pass each other. At maximum quarry extraction rate this doubling in volume will occur approximately once a minute. Furthermore, it does not address the issue of different sound characteristics produced by empty trucks, nor the likely speed difference thereof.

The presence of traffic lights at the Brisbane River crossing (Ch 3.1.1, page 5, last para) implies that there will be a tendency for truck movements to aggregate into convoys of two or more trucks producing significant noise increase as they travel along the haul route in close unison. This also is not considered.

The noise assessment report also assumes an average speed of 60km/hr (Appendix C), instead of the stated desired speed of 80km/hr (Appendix B, page 1). Given logarithmic increase in noise for increase in speed, this is significant. SIRA notes that empty trucks will typically travel faster.

With reference to letter and David Moore report (attached) provided by SIRA to the chairman, Kholo Creek Hardrock Advisory Panel dated 25th April 2002, the following matters are raised:

- An incorrect base for noise limits was adopted (50dB(A) instead of +3dB above ambient).
- Inappropriate assumptions of truck noise levels were made (based upon European highway measurements, not actual Australian quarry haul routes) and no allowance made for the different type of noise produced by empty trucks.
- Inadequate recognition was given to the deterioration of the ambient acoustic environment per Environmental protection (noise policy) 1997.

Averaged ambient background noise levels adopted by the report of between 50.6dB and 54.5dB (Appendix C SS 4.1, page 8) are very different to prior recorded measurements in the vicinity of the haul routes of 35db(A) (Appendix C, Attachment C, page 4 of 12). This is acknowledged by the report (Appendix C SS 4.2, para 3) but not explained. SIRA suggests that the supplied noise readings are in fact not representative of the area in normal conditions and thus grossly understates the noise impact that modeling suggests for the haul routes.

Background noise data were collected and reported but not used. Why collect and report this data unless there was a purpose to suggest an acceptability level for haul route noise?

The Report notes that there is no legislation in Queensland regarding control of noise levels on private roads. The report should at least make some recommendation on how it is going to be controlled and what are the appropriate limits.

Summary of predicted facade noise levels (Appendix C, Attachment A) - there is no mapping or location reference supplied for the 72 receivers listed.

Community Consultation

SIRA's interpretation of the Terms of Reference and confirmed in KCAP meetings, is that the consultant was asked to consult with property owners on or within 500m of the centre-lines of each haul route option.

Not all property owners within 500m of centre lines of the haul route options were contacted. The PB Report identifies 114 potentially affected property owners (Ch 6.4.1, page 54) of which only 70 were contacted (Appendix E, page E3.7). SIRA's information shows there are in fact 274 freehold properties that lie within 500m of haul route centre lines (DNR&M mapping).

This discrepancy may be explained by the fact that PB apparently only considered properties within 250m of haul route center lines (Ch. 6.5.2.1, page 60, para 3), which is not in accordance to the Terms of Reference. However. According to the supplied DNR&M mapping attached, the number of affected properties was 131 at 250m from haul route center lines.

Significant residential development abuts the 500m zone on Lake Manchester Rd and Blackwall Rd. In keeping with the Terms of Reference, SIRA suggest that it would have been appropriate for the project manager to have increased the consultation zone to 600m. This would have increased the number of affected properties significantly to 350 (DNR&M mapping).

SIRA believes that PB supplied insufficient information to the property owners. Half the property owners contacted (35) reported they were not aware of any supplied information (Appendix E, page E3.11). Not all matters of concern raised by property owners have been addressed in the report, e.g., compensation and timing thereof, impact on potable water in rainwater tanks, etc. (Appendix E)

Community feedback obtained by the consultant has been summarized in Chapter 6, unfortunately it is not actually used (Ch 8), i.e., there is no evidence that it is incorporated into Table 8.1, page 70 and thus it does not contribute to the Report outcome. This contradicts the statement of consultation objectives (Ch 6.2, page 52 last para).

Character and Amenity of Area

Residents in this district typically enjoy an exceptionally quiet semi-rural environment, characterised by the sounds of nature, clean fresh air and a surrounding vista of natural bushland. While it is difficult to quantify the value that this character and amenity has, it is quite clear that this was a key driver for the vast majority of residents investing in local property and is evidenced by “issue of most concern” choice by participants in community consultation, which places air quality and noise at a higher priority than property devaluation (Appendix E, page E3.10).

Figures provided for the haul route (Table 3.1, Appendix C, page 6) at maximum capacity (5 million tons per annum) indicate a loaded truck movement approximately once per minute therefore, allowing for empties, one truck every 30 seconds. This is representative of major industrialisation. The consequent loss of character and amenity to residents is not directly addressed by the Report, which ignores issues of importance to residents in favour of priorities derived from the value management workshop (Ch 7.3, page 67).

The Report deals with sound levels (Appendix C) but does not address the quality of sound. The quality of 50dB truck noise is vastly different, for example, to 50dB noise generated by wind in trees. The existing acoustic amenity of the area is thus not recognised in the Report, and variation in natural noise levels is not considered. No ratings or consideration have been given to community perception of the value of area character.

The visual and environmental impact of a 30m high bridge (Ch 3.1.4. page 6 and also design long-sections, Appendix B), carrying industrial traffic over the Brisbane River (immediately upstream of the Brisbane Water Supply Pumping Station and Treatment Plant) is not addressed.

Dust and Fumes

PB's assessment of air quality was based on meteorological data from Amberley Airforce Base (Ch 4.1, page 12). There was no validation of data for the haul route environs, despite the obvious differences in topography and geographical locations. As a result, PB's evaluation of dust and vehicle emissions failed to recognise the effect and importance of local winds and topography, and how this relates to the locations of existing and future residents.

In particular, locally strong katabatic air flows from the nearby ranges are not identified or considered.

Despite being raised in the community consultation process (Ch 6.5.1.1, page 58, para 2), the impact on potable water in rainwater tanks and reliance thereon by residents has not been addressed (Ch 4.2).

Vegetation

The Report notes that mapping of Regional Ecosystems (RE) was not available at the time the ecological survey was undertaken in late August 2000 (ch 4.1.5, page 17). However this mapping was certainly available well before the final report was prepared and should have been included. A copy is provided with this response.

Ground "truthing" was limited (Ch 4.1.5.3, page 18) and makes assumptions based upon simple roadside observation (e.g., at sites 3,4 5 & 6), bringing into question the accuracy of this 'truthing'. It incorrectly assesses the value of some regional ecosystems (Ch 4.2.5 & Appendix D, page Diii,12 - Site 6). Due to localised weed invasion, roadside observations are not likely to be representative of the study area. As a result the Report downplays the significance of remnant ecosystems.

Field vegetation survey sites (Figure 4.1, page 20 & see attached RE mapping) are typically not representative of the study area and do not include endangered remnant ecosystems. Failure to identify and ground truth these ecosystems is a major failing of this Report.

In particular, choice of site 7 to represent an “of concern RE” is particularly poor as it falls centrally in a pocket excluded by the mapping (see attached RE mapping). One could be forgiven for thinking that this choice was quite deliberate.

All haul route options pass across endangered remnant ecosystems (see mapping attached), which by law cannot be disturbed (Ch 4.1.5.2, page 17). The Report is silent on how this could be resolved.

The report notes that two significant species occur in the area, *Hernandia bivalvis* (grease nut) and *Choricarpia subargentea* (giant ironwood) but states that the typical habitat (dry rainforest and scrubby water courses) was not recorded and not expected to occur along any of the haul routes (Ch 4.2.5.5, page 32, para 3). Yet the Report itself contradicts this statement (ch 4.2.5.3, page 30, para 4) by noting that patches of riparian vegetation (i.e., scrubby dry rainforest along water courses) exist along some haul route options! Therefore it is quite possible, if not likely, that these species will be found.

Community Severance

The Report mentions severance (Ch 8.1.4, page 72) and deals with this in terms of number of local roads affected by the haul route corridors. The Report does not consider the broad affect on community and property owners to the west and north of the haul route.

The Report suggests that some local roads will be bridged (Appendix B, section 5, page 6), but does not identify which ones or where this bridging will occur. Therefore it is not possible to identify the resulting community severance and whether or not some properties would become effectively isolated.

Engineering Assumptions

The PB Report assumes a maximum of 714 trucks per day (Table 3.1, Ch 3.1.6, page 7), which is calculated by simple division of the expected maximum extraction rate of 5,000,000 million tonnes per annum. This is therefore the number of laden trucks. This ignores the fact that there must be a similar number of empty trucks per day traveling in the opposite direction. The correct figure is 1428 truck movements on the haul road, or 714 round trips.

Operational cost parameters however, are based upon 444 round trips (Table 3.4, page 9), using data from the previous Economics Report by Sinclair Knight Merz), corresponding to an extraction rate of 3 million tonnes per annum. These inconsistencies need to be resolved such that the engineering design and costs agree with the predicted maximum extraction rate.

The Report refers readers to Appendix B for detail on constructions costs (Ch 3.1.7.1 page 7, last para). The heading page for Appendix B describes a section titled "Preliminary Estimate" to appear after the long section diagrams. SIRA has inspected several copies of the Report, both hard copy and electronic, and can find no such mentioned section.

The Report incorrectly assumes that the reduction in vehicle speed for grades will be equal for both laden and empty trucks (Ch 3.1.7.7, page 11).

The PB assumption that the potential for adverse impact within the BCC weir catchments is proportional to the length of road in the catchment area (Ch 4.1.3.2, page 15) is overly simplistic. It does not recognise the effects of topography, proximity to the river and endangered ecosystems, mine workings etc.

The Report provides an equation used for dust estimates (Ch 4.1.1.2, page 13) but does not provide input parameters used, e.g., what speed was assumed?

BCC Water Reserve

The Report does not address the use of the BCC water reserve land given the stringent protection mechanisms currently in place, nor does it adequately address potential for devastating impact on the community due to spillage of hazardous material on the haul route finding its way into the intake pond. The report also does not mention a design limit for extreme rainfall.

The Report mentions construction design so as to contain spillage and runoff during normal operation (Ch 4.1.3, page 15, para 1), but does not address how run off and pollution is to be prevented from entering the water supply during construction.

The Report states that best practice will be applied to drainage structures on the project (Ch 4.1.3, page 15, para 1) to ensure that any impacts on drinking water quality are minimised. Further the Report states “there is still the potential for the project to harm water quality”. SIRA believes that this cannot be tolerated and the risk must be eliminated.

The positioning of a single lane bridge at the bottom of steep grades in the BCC water catchment reserve provides significant potential for an accident that may adversely impact water quality. Given the maximum capacity truck movement every 30 seconds (as previously discussed) it is likely that congestion will arise at the single lane bridge where traffic lights will be installed (Ch 3.1.1, page 5, last para) increasing the likelihood of accident in this critical location (e.g., brake failure, driver fatigue, etc).

Conclusion

SIRA concludes that the significance of some of the issues raised demonstrate that the Report is flawed and of particularly poor quality. As such the findings cannot be relied upon and should be not used by the advisory panel as a basis for a recommended haul route.

SIRA questions how basic errors such as miscalculation of truck passages, different assumptions of maximum quarry output and incorrect interpretation of community consultancy zone have been allowed to persist, given that they have been previously raised by SIRA at KCAP meetings.

SIRA has found that the document to have very poor usability. There is insufficient detail in the table of contents and consequently it is difficult to locate topic detail and cross-referenced material. SIRA also notes lack of a common references section in the main body of the Report.

Of particular concern to SIRA is the fact that community consultation has not included all residents likely to be impacted by the haul route and that PB have failed to take any community feedback into account in the haul route evaluation.

One basic issue of critical concern to the community is haul route noise, particularly given the exceptionally good noise amenity currently enjoyed by residents. The handling of this issue in the PB Report is clearly deficient

SIRA believes that construction of haul routes in the water reserve land is not tenable and that all haul routes examined by this Report are not tenable on this basis. Risk of water supply pollution that will affect all water users receiving supply from this source should not be tolerated under any condition.

Attachments

- EPA Regional Ecosystem (Version 3.1) & DNRM DCDB (showing PB vegetation survey sites), commissioned by SIRA.
- Community Consultation Buffer Areas map (showing affected property zones with respect to haul routes), commissioned by SIRA.
- Copy of David Moore report with regard to PB Noise Assessment Report (PR Report Appendix C).