



Ref: L12808/MFW/08-060

22 April 2008

Chief Executive Officer
Redlands City Council
PO BOX 21
CLEVELAND QLD 4163

Attention: Assessment Manager

Dear Sir

Re: Submission Concerning Development Application for Material Change of Use for Extractive Industry (removal and transportation of sand tailings) and ERA 20 – North Stradbroke Island

This submission has been prepared on behalf of Stradbroke Island Management Organisation (SIMO) to support their objection to the proposal on the basis of its potential impacts on noise, air quality, traffic and water quality and to request that Council refuse the application because of these adverse impacts.

It is understood that SIMO and its members will be making other submissions against the proposal on these and wider issues.

General Comments Concerning the Development Application

Consistency with the Integrated Planning Act 1997

It is of concern that the development application relates principally to “extractive industry”. While this may be relevant to the ERA 20 application and only to the actual mining lease area from which the “sand tailings” are proposed to be extracted, it should not apply to the designation of the use at the sand loading facility at Dunwich located on Lot 1 on SP156237.

It is noted from a current title search that this particular lot is operated under a lease agreement, the Tenure Reference being TL 0/218144 for the purpose of “Commercial/Business”.

Condition A61(1) of the lease states:

The lessee must use the leased land for commercial/business purposes namely for mineral sand storage and loading facilities.

The lease does not permit “extractive industry” and, referring specifically to “mineral sand” should not be extended to “construction sand”. Not only does that lease specify the sand type as limited to “*mineral sand*”, - the same distinction is drawn in the *Mineral Resources Act 1989* which also restricts sand extraction to mineral sand.

The distinction is therefore well established and is understood to have been relied upon by the Mines Department to refuse CRL permission to mine sand other than “*mineral sand*”. The position therefore seems to be that the Mines Department has already rejected an application by CRL to do the very thing for which permission is again now sought.

It is contended that the application does not support a Material Change of Use of Lot 1 on SP156237 to extractive industry nor to the granting of a licence by the EPA to allow the environmentally relevant activity, ERA 20 to take place on that site.

It is also of concern that the extraction of sand tailings from a mine stockpile may be inconsistent with the description of ERA 20 which applies to the extraction of sand from “a pit or quarry”. A sand tailings stockpile created as part of a mining activity could hardly be regarded as “a pit or quarry” as it is really only a temporary storage of sand tailings that is required to be replaced back on to the dunes as part of the mine rehabilitation required as a condition of environmental authority MIM800088202.

It is also questionable as to whether or not the activity of washing and separating the sand required for construction from the mineral sands at the stockpile site should be regarded as an environmentally relevant activity ERA 22 i.e. *Screening etc. materials – screening, washing, crushing, grinding, milling, sizing or separating material extracted from the earth (other than under a mining tenement or petroleum authority) or by dredging*. If it is not then the activity is one which is associated with the separation of the tailings and their return to the dunes for rehabilitation – an activity required as a condition of MIM800088202.

It is considered that all of the above matters are relevant to the assessments of the application by the Assessment Manager and the Concurrence Agency and that, having regard to the above, the development application may not have been properly made and a fresh application which fully complies with the *Integrated Planning Act 1997* should be prepared and re-submitted.

Consistency with the Environmental Protection Act 1994 & Associated Legislation

The EPA has responded as Concurrence Agency to the development application, that application being a “Material Change of Use Involving an ERA”. This may not be the case as far as the activities on Lot 1 on SP 156237 are concerned, as the nature of the existing and proposed activities at that site are not extractive industry (ERA 20), nor are they mining activities.

The apparently relevant ERA is ERA 74: *Stockpiling, loading or unloading goods in bulk – commercially loading, unloading or stockpiling materials or goods, in association with an activity mentioned in item 71, using a crane, conveyor, pump or other similar way, at a rate of more than 100t per day* which is a Level 1 ERA. In this case, item 71 refers to operating a port under the *Transport Infrastructure Act 1994*.

While the berth at Dunwich is not operated specifically under the general conditions of the *Transport Infrastructure Act 1994*, it is noted that Condition 13 of the lease TL 0/218144 specifies that the lease be managed in accordance with the *Harbours Act* “as continued in force by the *Transport Infrastructure Act*”, indicating that the site is operated as a port and therefore the current and proposed future operations should be licensed as an ERA 74.

In addition, the sand is unloaded at Pinkenba, which is part of the Port of Brisbane and the operations there are believed to be licensed for ERA 74. As the operator of the facility at Pinkenba would be required to be registered to carry out ERA 74 at that site, it would be expected that the EPA would require them to operate under EPA approval conditions at Dunwich.

This apparent anomaly would be expected to be removed as part of the current revision of the *Environmental Protection Regulation 1998*, wherein the description of ERA 74 will become ERA 74(a) *Stockpiling, loading bulk goods within 5km of HAT or 1 km of a watercourse >100 t/day* and Item 71 will be deleted.

It would be expected that the EPA would then require the operator of the existing facility at Dunwich to obtain a licence for an ERA 74(a), at least as soon as the *Regulation* is gazetted.

It is suggested that Council should make further enquiries of the EPA with regard to the need for the operations on Lot 1 on SP 156237 to be licensed as an ERA 74 before further consideration of the development application.

In addition, it is suggested that it would be appropriate for the EPA to be consulted by the Assessment Manager with regard to whether or not the EPA should now require a fresh application for an ERA 74(a) which includes provisions for the stockpiling and loading of construction sand from the current facility, in addition to provisions for the stockpiling and loading of mineral sands.

That the EPA may be concerned about this might be indicated by the response of the EPA, as Concurrence Agency to the current application, viz:

The application for material change of use (extractive industry) involving ERA 20 occurs entirely within mining leases held by Stradbroke Rutile Pty.Ltd.

It might be concluded then that the EPA has yet to offer its response as an Advice Agency on the proposed material change of use on the barge-loading site, rather than as a Concurrence Agency.

However, if the current use is an ERA 74, then the need for a material change of use application arises because of the more than doubling of the intensity of the activity at the site, together with the addition of construction sand to mineral sand as the products to be handled at the site.

If this is the case, this is a further reason for a fresh application to be submitted.

Consistency with the Conditions of the Lease TL 0/218144

In addition to the potential constraints to the proposed deliveries of construction sand arising from Condition A61(1) which requires that the lessee use the site for “mineral sand storage and loading facilities”, the following lease conditions are considered to be ones that require Council and the EPA to ensure that any approval given to the proposed expansion of the operations on Lot 1 on SP156237 should make due recognition of environmental management factors, particularly those which affect noise, dust, light and emissions toward residential and public areas and stormwater quality:

- (7) *The lessee has the responsibility for a duty of care, to take all reasonable and practicable measures to sustainably manage the leased land by conserving the physical, biological, productive and cultural values, either on the leased land or in areas affected by the management of the leased land.*
- (9) *The lessee must ensure that the use and development of the leased land conforms to the Planning Scheme, Local Laws and requirements of the Redland Shire Council, binding on the lessee.*
- (13) *This lease is subject to the Land Act 1994, the Harbours Act 1955 (as continued in force by the Transport Infrastructure Act 1994), the Transport Operations (Marine Safety) Act 1994, the Transport Operations (Marine Pollution) Act 1995, the Environmental Protection Act 1994 and all other relevant State and Commonwealth Acts.*
- (C346) *The lessee must not carry out or allow to be carried out, any offensive, noxious or noisy occupation or business, upon the leased land, in accordance with the Environmental Protection Act 1994.*
- (E23) *The lessee must ensure that each and every activity undertaken on the leased land which has the potential to pollute and/or contaminate the waters of Moreton Bay is carried out in such a manner as to prevent this from occurring.*
- (L109) *The lessee must not effect any further structural improvements on the leased land, without the approval of the Minister administering the Land Act 1994 and any other relevant authority, having first been obtained.*
- (T36) *The lessee must at all times take the necessary precautions to ensure that all lights on or above the leased land are shielded to prevent glare or reflection which may interfere with safe navigation of surrounding waterways or with reasonable enjoyment of neighbouring properties.*

Consistency with the Redlands Planning Scheme

The loading site lies within the area designated as the Marine Activity Zone, MA3. As such it adjoins the Community Purposes Zone, CP4 and the Residential Zone – separated by the road reserve which is an unformed section of Logan Crescent.

The lack of buffering of the existing barge-loading facility from the Community Purposes Zone, the Residential Zone and the parking areas for the vehicle barges in the Marine Activity Zone makes operation of the barge-loading facility in compliance with the amenity provisions of the *Planning Scheme* almost impossible.

It is shown below that it is doubtful even that the current operations of loading mineral sands comply with the *Planning Scheme* with regard to noise, dust and traffic.

As the proposal does not even recognise this and offers no additional mitigation measures, the expanded operations on the same, quite small site, it is considered that the proposed major expansions of the operation to include construction sand export through the facility has little chance of satisfying the provisions of the *Planning Scheme*.

It is doubtful also whether or not the current weighbridge operations are consistent with the amenity provisions of the *Planning Scheme*. The proposal to greatly increase the throughput of trucks through this weighbridge to enable the export of construction sand would increase the impacts on amenity – suggesting that the existing weighbridge should not be used for weighing construction sand.

It is suggested that CRL should be requested to consider removal of the weighbridge from its current location and that all weighing should occur at the mine-sites.

Noise Nuisance from the Proposed Operations on Lot 1 on SP 156237

This issue has been addressed in Section 4.0 of the *Environmental Noise Impact Assessment*, dated 4 October 2007, prepared for the development application by Bassett Acoustics, the activities there being described on p.13 of that report as follows:

Sand is proposed to be transported from the Enterprise Mine to the barge loader at Dunwich by haul trucks. The sand will be brought to the facility by haul trucks and transferred to an existing silo via a conveyor, or deposited onto the ground through the use of an existing front-end loader. The front-end loader is used to load the stockpile onto a conveyor that feeds onto the barge.

Having regard to **Photograph 1** of mineral sands loading activities being carried out at present and the site plan for the proposed expansion of the site's activities and stockpile areas to allow for even larger quantities of construction sand to be exported through this site, it may be seen that the above description is an over-simplification in terms of its descriptions of the site's existing and potentially significant future noise sources.

For example, it is claimed (p.14) that, at present, rutile/zircon “are dumped into a silo” before being conveyed to the barge. In fact, rather than the operation being a relatively quiet conveying operation, the haul trucks travel up an elevated ramp and reverse into a tip, with all of these activities creating quite audible levels of noise outside the residences which adjoin the site to the east.



Photograph 1: View of Barge-loading Facility from Logan Crescent

The description of the handling of ilmenite at the site similarly does not describe all of the potentially noisy activities associated with the export of this mineral. Haul trucks enter the site and back into either of two bunkers or into a stockpile on the hardstand and then tip their load before leaving the site.

The noises generated include truck engine noise while manoeuvring, reversing alarms and engine noise while tipping – all of which are audible outside the residences adjoining the site – the readily-identifiable and intrusive noise of the reversing alarms being particularly noticeable.

The loader then periodically elevates and pushes the dumped loads into either of the bunkers or the stockpile to maximise the manoeuvring area and the volumes of material held on site prior to barge loading. The engine, hydraulics and reversing alarm noise of the loader are also quite audible outside the residences which overlook the site.

Then, when the barge is being loaded with ilmenite, the loader picks up minerals from the bunkers or stockpile, runs up a small ramp and dumps the minerals into a hopper above the shore end of the conveyor. As this activity to a large extent controls the rate of loading of the barge, the loader activity is quite intense and its engine, hydraulics and reversing alarm noises create the most significant and noticeable composite noise source on the site.

The noise impact assessment (p.14) claims that, at present,....*a dumping event is usually completed by two haulage trucks and generally occurs for 12 to 15 minutes, twice to three times per hour and that ...sand from the proposed construction sand project will be handled in the same way as the ilmenite.*

The current export rate of ilmenite from the site is approximately 200,000 tpa. As the proposed export rate of construction sand is likely to be between 300,000 and 500,000 tpa, the dumping and stockpiling activities on the site will increase by a factor of 3.5. If this increase is spread throughout the day, then the impact on noise emissions from just this activity would be to increase the existing L_{eq} of this composite noise source by more than 5 dB(A).

The actual increase, as experienced as an hourly or shorter-term time average of the fluctuating noise level, would be expected to be even greater however because the time available for dumping and stockpiling would be further reduced by the time required to load construction sand on to the second barge each day from this spatially-constrained site.

Such an increase in the daytime L_{eq} would be quite noticeable and would not satisfy locally accepted noise guidelines for increases in variable noise emissions, for example a maximum increase of 3 dB(A) set by Brisbane City Council's *Noise Impact Assessment Planning Scheme Policy*.

The Bassett Acoustics noise impact assessment prefers not to refer to the impact of increased noise levels, preferring to compare the existing situation with an overall criterion which is not in general use and relies upon the nearby residences and child care centre being exposed to maximum hourly daytime L_{eq} s of 60 dB(A) because of their proximity to existing industry – even though this criterion is 5 dB(A) higher than that recommended for residential areas.

The impact assessment does not recognise the inadequacy of the buffers.

What is particularly concerning about the methodology used to determine and report upon the actual L_{eq} s from the loading facility is that the “attended load out facility noise measurements”, as summarised in Table 4-3 and with noise level traces shown in Appendix F, refer only to truck noise and not to the noise of the quite large loader which is not only used to load ilmenite onto the barge from the two bunkers but to push up dumped loads of ilmenite into the bunkers to create space for the trucks to manoeuvre – as indicated earlier.

Thus the claim that the L_{eq} of “typical load-out noise”, when measured at Location Y, was only 54 dB(A) would be difficult to justify and, more importantly, appears to be misleading as to the actual situation where the noise from the loader is by far the dominant noise source.

For example, measurements taken at an estimate of Location Y during barge loading and truck dumping on the morning of Wednesday, 16 April 2008, indicated L_{eq} s of 60.4 and 61.3 dB(A).

If 5 dB(A) is added to this as a consequence of the proposed expansion of loading and dumping activities on this site, then the resultant L_{eq} would not satisfy even the most liberal interpretation of the criteria tendered by Bassett Acoustics.

Thus it is considered that there is no substance to the claim in the Executive Summary of the noise impact assessment that, as future operations will use similar operations to those currently used for mineral load-out*it is not envisaged that there will be significant increases to existing noise levels and it is therefore unlikely that serious annoyance in outdoor living areas would occur.*

However, probably the most significant omission is to exclude the Redland Shire Council's criteria for *Noise levels at the boundary of the Marine Activity Zone* (see below) and for *Noise levels at the boundary of the nearest Residential Zone* (see below)

Table 2 – Noise levels at the boundary of the Marine Activity Zone

Period	Noise level at the boundary of the Marine Activity Zone ¹
7am – 10pm	Background noise level plus 10 dB(A)
10pm – 7am	Background noise level plus 8 dB(A)

Note¹ – Measured as the adjusted maximum sound pressure Level $L_{Amax,adj,T}$ as defined in the *Noise Measurement Manual* (Environmental Protection Agency, 2000)

Table 3 – Noise levels at the boundary of the nearest residential zone

Period	Noise level at the boundary of the nearest residential zone ¹
7am – 10pm	Background noise level plus 5 dB(A)
10pm – 7am	Background noise level plus 3 dB(A)

Note¹ – Measured as the adjusted maximum sound pressure Level $L_{Amax,adj,T}$ as defined in the *Noise Measurement Manual* (Environmental Protection Agency, 2000)

The former requires that the $L_{Amax,adj,T}$ (effectively an L_{10} in this instance) to not exceed the background noise level at the boundary of the Marine Activity Zone by more than 10 dB(A) during the period 7am to 10pm, while the latter requires it to not exceed the background noise level at the boundary of the nearest residential zone by more than 5 dB(A) during this period.

Table 4-2 of the Applicant's noise impact assessment study provides a limited amount of ambient noise level data that could be used for such an assessment. It shows that, for the period 1200hrs to 1300hrs, the background noise level, as measured by the 15 minute-averaged L_{90} , varied from 41.7 to 48.5 dB(A) at Location Z on the boundary of the Marine Activity Zone and from 35.3 to 41.5 dB(A) at the nearest boundary of the residential zone – the higher background noise levels of the former being related to activities and vehicles in the overall Marine Activity Zone, which includes the vehicular ferry landing.

Thus the L_{10} of all activities at the barge loading facility should not exceed, say, 55 dB(A) at Location Z nor 45 dB(A) at the boundary of the nearest residence (Locations X & Y).

From Table 4-4 it may be seen that the existing L_{eq} without loader noise at Location Y has been estimated to be 54 dB(A), indicating (from Table 3) that the L_{10} may be from 57 – 59 dB(A).

The L_{10} s measured on April 16 at Location Y, with the loader and trucks operating were 61.7 dB(A) and 63.7 dB(A).

Thus the existing operations do not satisfy Council's specific noise criteria and, as the L_{10} s are likely to be increased by a further 5 dB(A) due to the rate of increase in loading activity caused by the construction sand proposal, the development application should be refused on these grounds alone.

Additional support for Council's criteria for the Residential Zone can be obtained from the noise criteria set by the EPA in Schedule D of the mining operation's Environmental Authority No. MIM 800088202 wherein the maximum L_{10} at a noise sensitive receptor is 5 dB(A) above the background noise level for the period 7am to 10pm.

It is of further concern that, not only has the noise impact assessment methodology been inappropriate but that no continuous noise records were obtained by extended datalogging such that realistic values could be put upon those environmental noise parameters which are essential to the assessment of such a potentially major impact.

The above analysis shows that neither the existing nor the proposed expansion of the operation satisfies Condition 346 of the lease from the Queensland Government.

Noise Nuisance from Increased Truck Traffic

The current truck traffic from Enterprise Mine to the barge loader travels northwards along Mallon Street up a medium grade between two rows of houses, before turning into the private road to traverse the weighbridge. Loaded trucks leaving the weighbridge proceed downslope before braking to turn right into Ballow Street, proceeding northwards along Ballow Street past houses, a child care centre and a community hall to the intersection with Junner Street. After passing through this intersection, the trucks proceed downhill into the vehicle parking areas associated with the vehicular ferries and turn left into the loading facility.

Upon leaving the loading facility, the empty trucks again move through the parking area and proceed upslope along Junner Street, through the Junner/Ballow intersection and outbound along Mallon Street.

Currently the trucks appear to be semi-tippers and not B-doubles as stated in the report. It would be expected that they deliver average loads of 20 tonnes.

The SKM traffic study included with the development application lists the current traffic flow on Mallon Street being 1100 vehicles/day, with 18% heavy vehicles. The current export rate from Enterprise Mine is 419,000 tonnes per year. Ballow Street carries 900 vehicles per day, with 19% being heavy vehicles. The existing heavy vehicle movements appear to be about four per hour in each direction during the daytime.

It is suggested in the traffic study, that the construction sand will be transported in 30 tonne loads, 250 days/year and over 15 hour days – generating, on average, five heavy vehicle trips (two-way) each hour. Having regard to the limitation that loading the barge has upon the hours available to deliver both ilmenite and, if the proposal proceeds, construction sand, it is considered that the time available for construction sand deliveries will be at most 8 hrs each day, increasing the actual delivery rate to 10 trips per hour (two way) for the construction sand vehicles.

It is further considered that the reduction in site area caused by the construction sand stockpile would further inhibit the use of multi-unit vehicles to transport construction sand and that the average load would be 20 tonnes rather than the assumed 30 tonnes. This would have the effect of increasing the construction sand truck flow rate to 15 trips per hour.

It is considered that the above indicates that the assumptions used by Bassett Acoustics in carrying out their truck noise assessment may be significantly incorrect , e.g. the statement on p.8:

B-doubles with 30 tonne capacity are currently used to haul minerals from the Enterprise Mine to the load-out facility at Dunwich.

Tables 3.2 and 3.3 of the Bassett Acoustics report provide summaries of traffic noise monitoring at two sites – 26 Mallon Street and opposite the intersection of the private road from the weighbridge and Ballow Street. Table 3.2 shows that the L_{eq} (24 hr) in

Ballow Street, affected by truck trips in both directions, is 55 dB(A), while that in Ballow Street, affected by the one-way trips only of less-noisy laden trucks, would be 53 dB(A). The tables would have been of more use to a realistic truck traffic noise assessment if the tables had been expanded to provide the recorded 1 hour data rather than the 12hr, 18hr and 24hr data for the various parameters.

The daytime values, however, may be gauged by reference to the noise level traces included as Appendix B to the report. From these it may be seen that the 15 minute L_{eq} at Mallon Street frequently exceeds 60 dB(A) during the weekday mornings and that the peak noise levels reach 85 dB(A) measured as an L_{max} and 76 dB(A) measured as an L_{10} . A table attached to the traces, shows that the L_{eq} averaged over the weekday 7am to 6pm at the Mallon Street site ranged from 57.3 dB(A) to 57.6 dB(A).

The peak noise levels along Mallon Street have been described as being due to the banging of the unladen truck bodies.

A less-extensive record of noise levels in Ballow Street showed the daytime L_{eq} to frequently exceed 55 dB(A), the daytime average being 57.3 dB(A). The L_{max} , ranged from 70dB(A) to 82 dB(A). From observation and measurement, it is believed that the peak noise levels in Ballow Street, near the weighbridge exit, are due to brake squeals as laden trucks reach Ballow Street and to trucks accelerating under load as they turn right into Ballow Street, as shown in **Photograph 2**.



Photograph 2: Truck Turning out of Weighbridge into Ballow St.

It is of concern that Bassett Acoustics have only used general traffic noise criteria for new public roads which have much higher overall traffic flow rates and much lower percentages of heavy vehicles than those currently affecting the noise emissions from the truck transport route and where, as a result, the noise of trucks is masked to some extent by the frequent passings of light vehicles.

If the proposal is approved, truck passings in Mallon Street will increase from approximately 8 per hour to 30 per hour. While the maximum noise levels will not be increased, the number of times the noise from unladen trucks will be quite audible within adjacent houses will certainly increase and the daytime L_{eq} is likely to increase by some 6 dB(A) to unacceptable levels.

Similarly, it would be expected that the L_{eq} s in Ballow Street would increase by some 6 dB(A) and again be unacceptable.

If a more-appropriate traffic noise assessment was undertaken, it would have identified whether or not the noise at the Junner/Ballow street intersection and the intersections of the private road to the weighbridge with Mallon Street and Ballow Street would have increased the impacts beyond those which might be determined for free-flowing traffic.

It is considered that the resultant increased impact would show that noise attenuation measures need to be provided to houses along Mallon Street and Ballow Street and that the situation at the child care centre and the community hall needs further investigation.

It would be expected that a more-detailed analysis of the potential impact of truck traffic noise would also show that trucks should not use the existing weighbridge and that they should be weighed at the mine.

Traffic Impact Assessment

It is considered that the analysis of future truck traffic on public roads and intersections presented in the SKM report is inaccurate for the reasons described in the previous section of this submission and a fresh report, which takes these concerns into account, should be sought by Council before a decision is made on the development application.

It is of concern that the report has concerned itself solely with a technical assessment of road and intersection "capacity" issues and not with the safety issues. The safety issues are major issues as far as our clients are concerned and it is anticipated that other submissions will address these.

However, it is noted that no attempt has been made in the report to address the conflict of truck traffic to and from the barge-loader with the traffic and parking arrangements for the vehicular ferries located in the Marine Activities Area.

It is considered that, while the current situation may be generally accepted by the community, this is because there is sufficient space within the barge-loading facility

for trucks to manoeuvre and to wait before dumping their loads. The extensive area required for the construction sand stockpile and the further reduction in available parking space within the facility, likely to be caused by the loader pulling sand from that stockpile into the hopper while the construction sand is being loaded, is likely to cause trucks to queue outside the boundary of the barge-loading facility.

This will not only have a significant impact upon the movement and parking of private vehicles using the vehicular ferries but will introduce a significant public safety risk to pedestrians and to passengers wishing to step outside their vehicles while they wait for their barge, something which invariably happens, particularly during warmer periods, where sitting in parked vehicles is quite uncomfortable.

It is considered that Council should request the production of a site-specific truck transport management plan which satisfactorily addresses these issues before considering the development application.

In particular, the truck traffic management plan should address the following Specific Outcomes of the *Marine Activity Zone Code* by not requiring trucks to queue beyond the boundary of the site nor to be parked outside the site:

S 1.4

(1) *In sub-area MA3 uses –*

- (a) *are compatible with the primary marine orientated facilities and functions of the sub-area;*
- (b) *provide a range of marine-related transport, commercial, sand loading and storage facilities and services in conjunction with the passenger terminal functions.*

S 1.5

Other development does not hinder the ongoing operation and future economic development of marine uses within the zone

and, in particular

S2.1 *Site layout*

- (a) *uses the site efficiently and allocates sufficient areas for all activities related to the use;*
- (b) *locates employee parking manoeuvring and loading/unloading areas to:*
 - (i) *the side or rear of the site;*
 - (ii) *in sub-areas MA1 and MA3 – away from public transport facilities;*
.....
- (d) *provides opportunities to consolidate and coordinate on-site parking and service areas;*
- (e) *is designed to maximise personal safety for employees, customers and passengers;*
- (f) *in sub-areas MA1 and MA3 – minimises conflicts with foot passengers and vehicles.*

Also, for the above reasons, it is considered that the management of truck traffic from the existing and proposed expanded operations in the vicinity of the barge-loading facility do not comply with Condition 7 of the lease of the land from the Queensland Government.

Potential Increase in Dust Nuisance

The SKM report does not acknowledge that there is a dust nuisance created by fugitive emissions from the existing dumping, stockpiling and loading into the conveyor hopper of ilmenite exported through the barge-loading facility.

The existence of such a nuisance was readily observed on Wednesday 16 April 2008.

It is believed that it has also been the subject of complaints by residents near the barge-loader and by residents in Mallon Street and beyond (e.g. Guy Crescent).

From observation, it would be expected to be in such proportions to cause nuisance to the occupants of vehicles parked nearby while they wait for the ferry, with car-doors open to avoid overheating of the occupants as the adjacent marshalling area is an uncovered bitumen surfaced area.

In addition, it would appear from visual observation of the accumulation of wind-blown white sand to the north of the Unimin barge-loader that this is not a problem unique to CRL's operation but is due to the very nature of the dumping, stockpiling and loading operations at all similar facilities. The problem with the subject barge-loading facility is its proximity to residential and heavily-utilised public areas.

However this situation has not been recognised in the November 2003 report by Pacific Air & Environment, titled *Enterprise Mine Air Quality Study*, which has been submitted in support of the application. That study was based principally upon the atmospheric dispersion modelling of dust particles from all previous and continuing mining operations and used to predict dust concentrations from the overall mining operations on potentially dust-sensitive locations such as Dunwich. The model covered an area of 35km x 20 km. The Enterprise Mine was modelled as being some 12 km from Dunwich. It is not surprising that the model showed relatively minor increases in dust levels in Dunwich due to the mining.

However, while the PAE report does not summarise the results of dust monitoring in Dunwich, on p.10, para 1, it is noted that the EPA's acceptable limit of 120 mg/m²/day for insoluble dust deposition was greatly exceeded at the Dunwich monitoring site where the maximum was 576 mg/m²/day.

This should have been of concern and needs further investigation by Council to see if it is related to the transport of sand to the barge-loader and its subsequent stockpiling and loading.

Of further concern, is the recognition by PAE on p.10 of the report that:

Winds are predominantly from the east-southeast through to the south, with winds from the west also frequent.

As the barge-loader and stockpile areas are quite exposed to winds from the south and west, this indicates that residents to the east and the occupants of vehicles parked to the north of the stockpile area are likely to frequently experience dust nuisance from the existing stockpile area and this situation will be greatly exacerbated if the proposed stockpiling and loading of construction sand from the site is allowed to proceed.

It is noted from p.3 of the report supporting the development application that a key issue raised at the 19 September 2007 meeting with Redland Shire Council was "dust suppression", with Council commenting

Development application to provide details of how dust will be suppressed/minimised at the stockpile site and during transportation.

Surprisingly the proponent's responses were:

There are no sensitive receivers in close proximity to the stockpile site.

and:

Current dust management practices at the barge loading facility will continue if the proposal is implemented, including sweeping of the public roadway adjacent to the loading facility site (author's emphasis) and on-site and use of a water truck where necessary.

Little comfort can be obtained from the further comment regarding the relatively exposed proposed new sand stockpile, viz:

The proposed sand bunker with the load out facility is designed to minimise the effect that wind has on the sand held within the bunker.

It might be concluded then that the proposal has little chance of satisfying the air quality environmental outcomes sought for this locality under Council's Planning Scheme.

It is considered that the above indicates that neither the existing nor proposed expanded operations at the barge-loading facility satisfy Conditions (7) or (C346) of the lease from the Queensland Government.

Summary of this Submission

The development application and its supporting documents fall far short of what should have been provided for a substantial increase in an activity that is already having more than marginal impacts upon the residential community of Dunwich and those visitors to North Stradbroke Island who use the vehicle and passenger barges docking at the Dunwich Marine Activity Area.

The Council's own planning scheme makes clear in its provisions with respect to this zone, that any sand loading and storage activity must be "*compatible with the passenger terminal function*" and that any development in such areas must "*reinforce the area's strategic position as a gateway between the mainland and islands*".

The expansion of an industrial use immediately adjacent to a tourism gateway is self-evidently most ill advised.

If the traffic, noise and air quality studies had been carried out in the detail expected for such serious proposals, then the current impacts would have been accurately defined and the potential increases identified to be of such consequence that the loadout of construction sand could not be permitted to occur through the existing CRL facility at Dunwich.

The analysis of potential noise impacts from the barge-loading facility described earlier in this report shows that the noise from the loader operating on that spatially-constrained site will increase by 5 – 6 dB(A) at the nearest residences and, in addition to not conforming with recognised noise criteria, will unreasonably exacerbate a situation created by the provision of inadequate buffering.

It has also been shown that the air quality study offered as a support to the development application has not had regard to the impact of dust from truck traffic and barge-loading operations and is irrelevant to the assessment of this development application.

In fact, it is believed that there is a readily-identifiable dust nuisance created by the existing loading operations and that the dust management strategies offered by CRL, being more of the same, provide little comfort that the dust issue would be adequately addressed if the development application is approved.

Concern has also been directed at the inadequacy of the traffic study in examining the potential impacts of much-increased truck traffic having to manoeuvre and probably park in the vehicular ferry marshalling area. It is suggested that Council should request a detailed truck traffic management plan be prepared to address this and other issues.

Further, due to truck traffic, noise and dust issues, it is suggested that trucks conveying sand to the barge loading facility should not use the existing weighbridge in Dunwich but should be weighed at the mine-site(s).

It has been identified that the proposal does not satisfy the desired outcomes of the Redlands Planning Scheme for this locality and that it would be impractical to make changes to the proposal or to implement sustainable environmental management strategies that would achieve these outcomes at this site.

It has also been shown that the proposal does not satisfy relevant conditions of the lease TL 0/218144 from the Queensland Government allowing Lot 1 on SP 156237 to be operated as a mineral sand loadout facility.

There is also serious concern that the relevant environmental activity for the barge-loading operation is not ERA 20 for extractive industry but should already be an ERA 74.

Legal advice should be sought by Council on this issue and if this is the case, a compliant fresh development application should be made.

Of particular concern, with regard to the need for the lading of sand to be through the existing spatially-constrained and inadequately-buffered Dunwich barge-loading facility, is that the proponent is prepared to cause increased adverse impacts upon the Dunwich community while it tests its ability to penetrate the commercial markets for construction sand.

Such penetration appears to be dependent upon avoiding the need for and costs of providing new infrastructure in a loadout location distant from residential and tourist areas on the island.

It is submitted that Council should reject the application and suggest to the proponent that a site be sought for a more-appropriate loadout site that could satisfy Council's planning codes and policies and the Queensland Government's environmental protection legislation, assuming that to be possible.

Yours sincerely



Max F Winders