

8.1 **Compliance - Ballina Sands Quarry - Annual Extraction Rates**

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Delivery Program Development Services

Objective To provide an update on the compliance investigation in respect to the Ballina Sands Quarry and to seek Council endorsement of future action.

Background

Council received a complaint alleging there has been a breach of the annual extraction limits for the Ballina Sands Quarry, located at 91 Newrybar Swamp Road, Kinvara.

The basis of the complaint alleged that, given the payments made for tonnages hauled under the provisions of the section 94 Heavy Vehicle Haulage Contributions, the annual extraction limit had been exceeded.

A check of Council records has revealed that on 19 March 2014, the Joint Regional Planning Panel granted consent to development application DA 2013/162 for an "Extractive Industry (Sand Quarry)" within the premises. Included within this approval were Conditions 40, 43 and 44 which state:

40 Extraction rate

The annual rate of extraction shall not exceed 80,000 cubic metres. Details of the actual extraction rates are to be submitted to Council on a quarterly basis (3 monthly). Prior formal development consent is to be obtained from Council for any proposed extraction in excess of this amount.

43 Contributions

A contribution shall be paid for any material exported from the site in accordance with the Ballina Shire Heavy Haulage Contributions Plan current at the time of payment. The payments are to be paid on a quarterly basis within one month of the end of the quarter. The quarters shall comprise 1 January – 31 March, 1 April – 30 June, 1 July – 30 September, 1 October – 31 December unless otherwise notified by Council. NOTE: at the time of consent this requires a payment of 0.345c per tonne of material hauled from the site. The levy is to be increased annually in accordance with the Consumer Price Index for Sydney.

44 Remittance form

A "remittance form" as issued by Council shall be submitted to Council for each quarter either accompanying the required payment or as a "nil" return. The information required includes the applicable quarter, quantities of material, tonnage rate, contribution payment and the like and be certified by a company officer.

Council's Heavy Haulage Contributions Plan 2011 (the "Plan") at Appendix 4 provides a 'Volume – Weight Conversions' table that has been adopted for the purposes of the Plan.

This table provides weights of 1.3 tonnes for siliceous (dry) sand and 1.4 tonnes for indurated (wet) sand.

8.1 Compliance - Ballina Sands Quarry - Annual Extraction Rates

Utilising the conversion figures from Council's Heavy Vehicle Haulage Contributions Plan against the returns provided to Council by the quarry operator in compliance with Condition 44 of the approval, the quarry operator has made the following payments to Council and extracted the following tonnages and cubic metres in accordance with condition 43.

Period	Tonnage Extracted	Conversion @ 1.3 tonnes siliceous (dry) sand	Conversion @ 1.4 tonnes indurated (wet) sand
1 October 2016 to 31 December 2016	90,612.33 tonnes	69,701.79 cubic metres	64,723.09 cubic metres
1 July 2016 to 30 September 2016	20,571.54 tonnes	15,824.26 cubic metres	14,693.96 cubic metres
1 April 2016 to 30 June 2016	86,186.49 tonnes	66,297.30 cubic metres	61,561.78 cubic metres
1 January 2016 to 31 March 2016	29,745.88 tonnes	22,881.45 cubic metres	21,247.06 cubic metres
1 October 2015 to 31 December 2015	8,965.00 tonnes	6,896.15 cubic metres	6,403.57 cubic metres
1 July 2015 to 30 September 2015	32,768.03 tonnes	25,206.18 cubic metres	23,405.74 cubic metres
1 April 2015 to 30 June 2015	43,361.18 tonnes	33,354.75 cubic metres	30,972.27 cubic metres

Based on these figures, it appears that the quarry operator has extracted the following amounts from the subject quarry.

Period	Tonnage to Cubic Metres Extracted (1.3)	Breach	Tonnage to Cubic Metres Extracted (1.4)	Breach
1 April 2015 to 31 March 2016 (operating year)	88,337.53 cubic metres	Yes	82,028.64 tonnes cubic metres	Yes
1 January 2016 to 31 December 2016 (Calendar Year)	174,704.8 cubic metres	Yes	162,225.89 cubic metres	Yes
1 July 2015 to 30 June 2016 (Financial Year)	121,278.08 cubic metres	Yes	112,618.15 cubic metres	Yes

Council subsequently wrote to the operator and requested a response to these figures, which pursuant to the provisions of Conditions 40, 43 and 44 of development consent DA 2013/162 appear to be over the permissible annual totals for those premises.

The operator has provided a formal response and has formed the view that there is no substantive breach of Conditions 40, 43 and 44 of development consent DA 2013/162.

This report seeks Council direction in respect to the interpretations.

8.1 Compliance - Ballina Sands Quarry - Annual Extraction Rates**Key Issues**

- Compliance with development consent conditions
- Inconclusive density modelling

Information

The quarry operator has indicated that the in situ indurated sand density within the quarry area is between 1.8 and 1.9 cubic metres per tonne extracted.

A review of various websites and engineering journals and discussions with Council's own engineers has confirmed that there are many different conversion formulae for extracted, indurated sand and the resulting sale of dried loose sand.

These conversion figures provide a wide range from 1 cubic metre:1.3 tonnes as outlined in Council's Section 94 Heavy Vehicle Haulage Contributions Plan up to 1 cubic metre:2.08 tonnes as provided by reference text Chemistry of the Elements, Butterworth – Heinemann.

The following table provides a breakdown on the figures and conversion rates.

Item	1 April 2015 to 31 March 2016 (operating year)	1 January 2016 to 31 December 2016 (calendar year)	1 July 2015 to 30 June 2016 (financial year)
Tonnage Extracted	114,840.09 tonnes	227,116.24 tonnes	157,665.43 tonnes
Tonnage to Cubic Metres Extracted (1.3)	88,337.53 cubic metres	174,704.8 cubic metres	121,278.08 cubic metres
Conversion @ 1.4 tonnes indurated (wet) sand	82,028.64 cubic metres	162,225.89 cubic metres	112,618.15 cubic metres
Conversion @ 1.54 tonnes indurated (wet) sand	74,571.49 cubic metres	147,478.08 cubic metres	102,380.15 cubic metres
Conversion @ 1.8 tonnes indurated (wet) sand	63,800.05 cubic metres	126,175.69 cubic metres	87,591.91 cubic metres
Conversion @ 1.9 tonnes indurated (wet) sand	60,442.15 cubic metres	119,534.86 cubic metres	82,981.81 cubic metres
Conversion @ 1.95 tonnes indurated (wet) sand	58,892.35 cubic metres	116,469.87 cubic metres	80,854.07 cubic metres
Conversion @ 2.08 tonnes indurated (wet) sand	55,221.58 cubic metres	109,190.5 cubic metres	75,800.2 cubic metres

The consent, at Condition 40, does not specifically identify when the annual extraction figures should be calculated.

Given this, it is anticipated that the quarry operator would indicate that the annual extraction figures are calculated from when extraction first took place, namely for the annual period 1 April to 31 March (the operating year).

8.1 Compliance - Ballina Sands Quarry - Annual Extraction Rates

This view is logical and if Council were to accept this annual period, then a further question arises as to which density calculation should be used to convert in-situ indurated sand to a dry, loose product.

As outlined in the table, if the conversion factors in Council's Section 94 Heavy Vehicle Haulage Contributions Plan were to be relied upon, a breach of the consent could be identified. However, if any other conversion factor is utilised, no breach would exist for the period 1 April 2015 to 31 March 2016.

Council has historically applied the CPI increase on 1 July of each year and this may be sufficient to justify the annual extraction year runs concurrent with the financial year.

If this were the preferred annual indicator, then a number of potential breaches for conversion factors of up to 1.9 tonnes per cubic metre may apply. It is also worthy of note that the quarry operator has indicated that the in-situ indurated sand within the quarry is between 1.8 and 1.9 tonnes per cubic metre.

The Civil Services Group advises indurated sand can generally have a density of 1.8 to 1.9 tonnes per cubic metre.

The typical sand extraction profile is six metres deep and comprises three layers of sand. The top metre is dry sand, the next metre is wet sand and the remaining four metres are indurated sand. Values obtained from various sources indicate typical densities as follows:

- Dry Sand 1.5 tonnes/m³
- Wet Sand 1.7 tonnes/m³
- Indurated Sand 1.9 tonnes/m³

For a typical six metre deep excavation, the average density is 1.8 tonnes per cubic metre.

Sustainability Considerations

- **Environment**

The increase in heavy vehicle movements may increase the potential for a traffic accident within the vicinity of the quarry.

- **Social**

The commencement of proceedings would provide a deterrent to other business operators within the Ballina Shire.

- **Economic**

The commencement of any proceedings would have an economic impact on the landowners as legal proceedings are costly.

Legal / Resource / Financial Implications

Legal proceedings are generally costly and to minimise costs and to achieve an acceptable outcome, there are a number of options available.

8.1 Compliance - Ballina Sands Quarry - Annual Extraction Rates

Consultation

Council has not sought legal advice to date.

This report has been made in open Council as all the information within it is a matter of public record. If the Council needs to debate any matters having potential legal privilege, it may be necessary for Council to resolve to move into confidential session.

Options

Council's main options are:

1. Accept the submission as made by the quarry operator and take no further action in relation to the complaint of the over extraction of materials within the subject premises for the period 1 April 2015 to 31 March 2016 and continue to monitor annual extraction totals from development consent DA 2013/162.
2. Seek additional density modelling and a peer review of the findings for the period 1 April 2015 to 31 March 2016 by an independent qualified engineer.

Option One

Accept Quarry Operator Submission - It is open to Council to accept the submissions as made by the quarry operator and resolve that no further action is required in relation to the complaint of over extraction of materials within the subject premises.

There are a number of variable density converters to convert indurated sand to a dry, loose material, and each situation has a number of variables, which will impact on the overall result.

Currently, Council has no evidence to the contrary to reject the density modelling provided by the quarry operators.

If this option is preferred it would only apply to the period for the period 1 April 2015 to 31 March 2016. Ongoing reviews of extraction rates would need to be undertaken to ensure ongoing compliance.

Any future potential breaches of the annual extraction totals would be assessed for the period 1 April to 31 March, with feedback sought from the quarry operator for any potential breaches in the future, prior to any action being undertaken.

Option Two

Independent Density Modelling - It may well be prudent to obtain independent modelling for this quarry. Any independent density modelling would be at additional cost to Council and there is no legal avenue to have these costs borne by the quarry operator.

A very preliminary estimate for this work is approximately \$10,000.

8.1 Compliance - Ballina Sands Quarry - Annual Extraction Rates

If the independent density modelling reveals a lower density and a subsequent breach of a development consent condition, Council may seek to have these costs recouped in subsequent legal proceedings, however there is no guarantee that such an order would be granted by the Court.

Under this option Council would also need to confirm the annual extraction period for which the assessment is to be undertaken.

In conclusion, if the annual extraction period is determined to be from 1 April 2015 to 31 March 2016 and using the figures from Council's Section 94 Heavy Vehicle Haulage Contribution Plan, there is, on face value, an over extraction of some 2,000 m³ of material, which is approximately 2.5% over the annual extraction rate.

However, this over extraction would be negated if a higher density modelling consistent with that quoted by the quarry operator was accepted.

The likelihood of Council undertaking successful compliance action based on the relatively low percentage (i.e. 2.5%) of non-compliance, balanced against the various density measurements, is low.

Council has sought information from the operator and there is not sufficient evidence to disagree with that response.

Based on this, the preferred option is option one. This option accepts the figures for 1 April 2015 to 31 March 2016, while at the same time it recognises that Council is undertaking on-going monitoring of the annual extraction totals for development consent 2013/162.

RECOMMENDATION

That Council notes the contents of this report and endorses option one, which notes the extraction figures for the period 1 April 2015 to 31 March 2016, while the same time acknowledging that on-going monitoring is continuing for development consent 2013/162.

Attachment(s)

Nil