

# The Old Rose Cottage



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Planning Services  
Department of Planning and Environment  
GPO Box 39  
SYDNEY NSW 2001  
Attention: Director – Resource Assessments

20 June 2018

Dear Sir/Madam,

**Submission on Sutton Forest Sand Quarry Project (SSD 6334)**  
**- Interim submission only**

1. As indicated above, I wish this submission to be regarded as an interim submission only. The EIS is only on exhibition for a month and I only became aware of the EIS two weeks ago. The subject matter and documentation in the EIS involve highly technical and detailed issues and I will need further time to properly address them.
2. This submission will examine the following matters:
  - (1) Environmental sensitivity of the location
  - (2) Threat to the water quality and supply of the aquifer and surface water
  - (3) Unlikely availability of water licences
  - (4) Catastrophic impact of the development on the surrounding properties
  - (5) Health Issues
  - (6) Uncertainty of rehabilitation in 30 to 50 years time
  - (7) Town Planning Considerations

Here now is the substance of the submission.

## **(1) Environmental Sensitivity of the Location**

### **Federal Protection**

3. At the federal level protection is given to “Temperate Highland Peat Swamps on Sandstone” as an endangered ecological community. Long Swamp, which is adjacent to the site of the sand quarry is such a listed endangered ecological community. Section 18(6) of the federal Environment Protection and Biodiversity Conservation Act 1999 provides as follows:

***(6) A person must not take an action that:***

- (a) has or will have a significant impact on a listed threatened ecological community included in the endangered category; or***
- (b) is likely to have a significant impact on a listed threatened ecological community included in the endangered category.***

***Civil penalty:***

- (a) for an individual—5,000 penalty units;***
- (b) for a body corporate—50,000 penalty units.***

4. I ask, therefore, that the federal Department of the Environment and Energy be consulted as to the likely impact of the project on this sensitive environment. In seeking advice from the federal government, reference should be made to the Green Valley Sand Quarry, an even larger quarry located only 4 kilometres away, and also in close proximity to the same endangered ecological community. The federal assessment needs to take account of the cumulative impact of the two mega sand quarries in this fragile environment.

### **State Protection**

5. The Long Swamp area adjacent to the site is listed in NSW as “Montane Peatlands and Swamps”, which is an endangered ecological community. It is habitat, for example, for the Giant Dragonfly, an endangered species. Again, I ask that the NSW environmental authority within your Department be consulted and asked to give a report in relation to this. The ground water in the aquifer gives rise to springs that feed these surrounding swamps. As discussed under heading (2) Threat to Water (paragraph 13), the recently approved and nearby Green Valley Sand Quarry, which will ship 20% more sand (1,000,000 tons annually) than this proposed quarry, will be extracting even greater quantities of ground water. These mega projects

threaten the endangered swamp habitats, and combined are likely to destroy the swamps.

6. Of even greater concern is that the site for the quarry is part of the Great Western Wildlife Corridor (as is the Green Valley Sand Quarry), which links the Blue Mountains to the Morton National Park. These wildlife corridors are increasingly important in the face of climate change and habitat destruction. As temperatures rise with climate change, many species' habitat will shift upwards in altitude. The Great Dividing Range running down the East coast of Australia will, therefore, become a "Noah's Ark" for many species. The site of the quarry itself is very large, and will fragment the wildlife corridor. However, it is not just the area of the site that is threatened, but large areas of surrounding habitat, as noise, light and dust are carried over long distances. Again, the overlapping and cumulative impact of two mega sand quarries within a few kilometres of each other will severely and negatively impact this strategic wildlife corridor.

7. The destruction on the site (63 hectares of bushland) and the wider area of negative impact narrows and fragments the wildlife corridor, thus severely compromising the connectivity achieved by the corridor. This is something that cannot be compensated for by offsets.

8. The site also contains species of trees that the local koala population can feed on. "SEPP No 44 Koala Habitat Protection" is presently being reviewed, particularly in light of the research project being conducted by the Shire's Council on the Shire's unique population of koalas. This local population of koalas has been found to feed on a far wider range of eucalypts than koala populations in other locations. SEPP 44 does not, therefore, adequately identify species of eucalypt that are an important food source for the Southern Highlands koala population. It only identifies 3 species of eucalypts that the Southern Highlands population feeds on, when research indicates that 23 species of eucalypts are food for the local [population (11 of these are found on the site of the proposed quarry)]. I understand that Wingecarribee Shire Council will address this issue in greater detail.

9. The EIS provides a series of risk assessments in Appendix 4 Assessment of Environmental Risk. However, in light of the very high environmental sensitivity of the location, the scale of the project, the severe nuisance factors involved (noise, dust and light) and the proximity of nearby dwellings, the risk assessments consistently understate the likelihood and severity of the impacts. This is not an objective assessment, but rather an assessment drafted purely for the promotion of the project. Accordingly, I ask the Department to view these assessments with a critical eye.

## **(2) Threat to the water quality and supply of the aquifer and surface water**

### Ground Water

10. The EIS Ground water Impact Statement states that 33 megalitres of ground water will be required to supplement the surface harvest of rainwater. In addition, 51 megalitres of ground water will flow into the quarry and will need to be extracted. This combined amount of 84 megalitres per year of ground water will require water licences. As Hume Coal has discovered in relation to its proposed coal mine, there are not enough water licences available in the Shire. Indeed, as other State Significant Developments have been approved for the Shire the demand for ground water will have a massive cumulative impact on the aquifer. It should be noted that the area will have even more demands on ground water because of the Green Valley Sand Quarry (just 4 kilometres away). This approved project will extract and truck 1,000,000 tons of sand, c.f. this quarry's proposed output of 800,000 tons annually, indicating that there will not be enough water licences for the two mega quarries.

11. It should be noted that blasting the sandstone is likely to increase the permeability of the surrounding rock, thus increasing the flow into the pit. This is not taken into account in the water study provided in the EIS.

12. The springs emanating from the aquifer feed the surrounding endangered swamp habitats. As the water table is lowered the supply of water to the swamps will be diminished, further drawing on the springs and the aquifer.

13. As climate change grips and the amount of surface water to feed the aquifer diminishes, there will be more pressure on the quantities of groundwater available for extraction. The estimates of the recharge of the aquifer contained on page 2-68 of the water study are therefore highly optimistic for future decades. In other words, this quarry relies on a very short-term perspective in its projections. The cumulative impact of this quarry and the nearby mega Green Valley Sand Quarry on the surface water recharge rate has been grossly underestimated.

14. Of great concern also is the likely impact on the quality of the water in the aquifer. Disturbing the aquifer and dumping vast quantities of fill into a pit that will be almost 40 metres below the water table will have an unknown impact on the quality of the water. In reality, this is an experiment and the aquifer is not something to take unquantifiable risks with.

15. The NSW Aquifer Interference Policy 2012 requires any development impacting on groundwater to have a neutral or beneficial impact on the water quality

of the groundwater. As indicated above, the impact on quality is unknown and with another mega sand quarry just 4 kilometres down the road, the cumulative impact is even less predictable. It is highly unlikely that the State Government will be in a position to constantly monitor the quality of the backfill material, adding further uncertainty to the outcomes in decades to come.

### Surface Water

16. I understand that there were only three testing sites for the quality of the surface water, and that the tests were undertaken some 5 years ago. The EIS does not, therefore, contain up to date information. Nor does it contain information that is comprehensive, given the limited number of test sites. Further, the right to harvest surface water on the property is limited to 10% of the rain. However, given the size of the pit the Applicant will be harvesting 3 times this allowable amount.

17. The washing process involved in the sand production will result in massive amounts of fines and dirty water. In addition, there is the huge quantity of water extracted from the pit itself. Although the EIS glosses over this with an assurance that the holding dams and collection of fines will be properly regulated, past experience with mining indicates that because of the sheer quantities involved the project will present insurmountable problems and a high risk of spills in to the surrounding land. Given the environmental sensitivity of the location, this could have catastrophic environmental consequences.

### **(3) Unlikely availability of water licences**

18. This has been touched on in heading (2), paragraph 10, above. Water licences in the Shire are in short supply, and I ask that the Department ensure that the Applicant has secured the requisite water licences before giving any approval.

### **(4) Catastrophic impact of the development on the surrounding properties**

19. This raises the vexed question of morality. Landowners need to be assured that when they purchase a property their amenity will not be lightly dismissed as dispensable in the interests of the wider economy. Some of the neighbours live a mere 60 metres from the proposed quarry operations.

20. The severe and likely health impacts on the neighbouring properties are discussed under heading (5) Health Issues below. These include silicosis and respiratory problems from dust, extreme stress from noise (trucks, blasting and grinding), and night time disturbance from industrial lighting. There is also the

emotional toll from awareness that they may be powerless in the face of big mining and an acquiescent government. I understand that one of the landowners was told by the staff of the Applicant “You know you won’t be able to live here”. This is not a surprising comment, considering the hours of operation envisaged (page 2-49 of Section 2 of the EIS), being 5.00am to 10.00pm for extraction, and continuous for processing [grinding], despatch (trucks) and maintenance. The amenity of adjacent properties would clearly be destroyed.

21. There has been a massive and spontaneous rise of opposition in a very short time. This will only increase as time goes on. Now that the local Council has made or will make a submission opposing the project and sufficient numbers of objections have been received from the general public, the project must be referred to the Projects Assessment Commission (PAC). I understand that the Department of Planning is to hold a public consultation meeting, on a date yet to be set. I have no doubt that the meeting will be well attended. The level of community opposition must be factored in when assessing the project.

## **(5) Health Issues**

22. The EIS rightly identifies SEPP 33 (Hazardous and Offensive Development Application Guidelines) as a requisite consideration. However, the EIS assumes that “hazardous or offensive” industry is limited to industries involved in “hazardous materials”, whereas SEPP 33 is much more general than this. Accordingly, the data presented in the EIS is deficient in that it only addresses chemical hazards and makes no mention of **dust, noise or light** as hazards or offensive pollutants.

### **Silica Dust**

23. Silica dust has long been recognised as a health risk, particularly where, as is the case with this development, blasting and grinding of sandstone is involved. In fact, the grinding of the sandstone into sand is the major activity to be undertaken.

24. Sandstone consists of quartz particles bound together with silicon “cement”. The quartz itself is a form of silicon (SiO<sub>2</sub>). Sandstone is, in fact, crystalline silicon. The crushing and grinding of the sandstone will, therefore, create vast quantities of silica dust.

25. There are a number of neighbouring properties in close proximity to the site with dwellings on them. These will be severely impacted by the silica dust created and disbursed as the quarry gets underway. There are also many dwellings in the surrounding countryside that will be negatively impacted by the silica dust, because of the prevailing winds. The sheer scale of the quarry amplifies this health risk even

more. Further, the cumulative impact of this mega sand quarry combined with the nearby even larger Green Valley Sand Quarry will compound the problem.

26. The Cancer Council of Australia states on its website  
(<https://www.cancer.org.au/preventing-cancer/workplace-cancer/silica-dust.html>)

***Silica dust is harmful when inhaled into your lungs. As it is 100 times smaller than a grain of sand, you can be breathing it in without knowing.***

***Exposure to silica dust can lead to the development of lung cancer, silicosis (an irreversible scarring and stiffening of the lungs), kidney disease and chronic obstructive pulmonary disease. It is estimated that 230 people develop lung cancer each year as a result of past exposure to silica dust at work. Not all exposed workers will develop cancer; cancer risk increases with long term or repeated high-level exposure.***

SafeWork NSW states on its website

(<http://www.safework.nsw.gov.au/media/publications/health-and-safety/hazardous-chemicals/crystalline-silica-technical-fact-sheet>)

***Significant levels of airborne dust are most likely to occur when materials or products in the workplace are cut, sanded, drilled or during any other activities which create fine dust.***

## Noise

27. The enormous numbers of trucks per day used to create the quarry and then to cart the sand will generate constant and high levels of acoustic stress for the surrounding properties. In addition, there will be the crushing of the sandstone, which will be undertaken day and night. Finally, there is the blasting of the rock, which will disturb not only the human population, but also domestic and native animals. The devastating impact on native animals has been addressed above under heading “(1) Environmental Sensitivity of the Location”. This section of the submission will examine the human health issues with noise.

28. Work Cover Queensland states on its website  
(<https://www.worksafe.qld.gov.au/injury-prevention-safety/hazardous-exposures/noise/effects-of-excessive-noise>)

***In response to excessive noise, your autonomic nervous system attempts to adjust body functions by increasing a person's heart rate, raising blood pressure and releasing the hormones adrenalin and cortisol.***

*However, prolonged high levels of adrenalin and cortisol under stressful working conditions may lead to more serious health effects, including:*

- *raised blood pressure*
- *accelerated heart rate*
- *stress, which can lead to irritability and headaches*
- *hypertension increasing the risk of strokes and heart attacks*
- *reduced white blood cell count and immune response*
- *gastric ulcers.*

29. There are many studies on the health effects of constant and disturbing noise. Suffice it to say, that the scale of the project and the resulting level of noise will make it impossible for the neighbouring residents to continue living there. This is an appallingly unhealthy and unjust outcome for our Shire's residents who had no way of knowing when they purchased their property that such an invasive industry would be contemplated nearby.

#### Light

30. The US National Library of Medicine published an article in January 2009 called "Missing the Dark: Health Effects of Light Pollution".

(<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2627884/>)

It raises the notion of "light trespass" in the following terms:

***Light trespass occurs when unwanted artificial light from, for instance, a floodlight or streetlight spills onto an adjacent property, lighting an area that would otherwise be dark.***

31. The "light trespass" in this case will be overwhelming, as the night lighting of the site will spill over onto and across the entirety of the neighbouring properties. It means that the residents will have no respite from the intrusion of massive industrial lights.

#### **(7) Uncertainty of rehabilitation in 50 years time**

32. I understand that the Applicant, Mr Ron Bush has applied on behalf of Sutton Forest Quarries Pty Ltd and that neither owns the land. I assume, therefore, that the land is leased, as is the case with the Green Valley Sand Quarry 4 kilometres away.

33. The initial phase of the project is to be 30 years, and for the second stage, including rehabilitation, there will be a further period of 20 years for the project. If indeed the land is leased, it is incumbent on the Department to examine the lease for provisions (including options) that provide security of tenure for this combined



period of 50 years. If this is not done there can be no assurance that the obligation to rehabilitate can be enforced. I would like to add that I speak as a retired Australian Government solicitor who in my working life provided legal advice on “Major Projects” in the Attorney-General’s Department, Office of Commercial Law, Canberra. Security of tenure is a necessary requirement for any contractor and, to give credence to the contractor’s long-term commitments, needs to be verified.

34. The extent of rehabilitation required and the lengthy duration of the project means that it is unlikely that the personnel involved in the first 30 year part of the project will be alive or in control for the second 20 year period of the project. If the Department is inclined to recommend approval of the project, to ensure that adequate funds will be available for rehabilitation, I ask that the Department require a certain percentage of the annual revenue to be set-aside in a sinking fund that earns an acceptable amount of interest, with all interest earned from the moneys to be deposited in the fund. A record of the accumulating sums should be accounted for annually to the Department. Alternatively, a reputable financial institution should provide a financial guarantee for the 50 year term of the project, with the amount of the guarantee rising each year to cover CPI increases and the rising estimate of rehabilitation. Giving approval cannot be the end of the approving authority’s responsibilities.

## (8) Town Planning Considerations

35. Although this development is a State Significant Development, with the Minister as the consent authority, regard must still be had to the local planning rules, and in particular the objectives of those rules.

36. The land is zoned E3 Environmental Management and the objectives of that zone are:

- ***To protect, manage and restore areas with special ecological, scientific, cultural or aesthetic values.***
- ***To provide for a limited range of development that does not have an adverse effect on those values.***
- ***To encourage the retention of the remaining evidence of significant historic and social values expressed in existing landscape and land use patterns.***
- ***To minimise the proliferation of buildings and other structures in these sensitive landscape areas.***
- ***To provide for a restricted range of development and land use activities that provide for rural settlement, sustainable agriculture, other types of economic and employment development, recreation and community amenity in identified drinking water catchment areas.***

- ***To protect significant agricultural resources (soil, water and vegetation) in recognition of their value to Wingecarribee's longer term economic sustainability.***

37. The impact of the quarry in relation to these objectives of the zoning of the land is catastrophic. It not only makes a nonsense of the town planning rules, it destroys the very thing that gives rise to its zoning, namely its environmental sensitivity. To even contemplate approving this development in this location is an affront to our society's values.

38. The applicable Development Control Plan is the Rural Lands DCP and Clause A6.10 of the DCP provides for "Minimisation of External Impacts – Outdoor Lighting", which states as its objectives:

- (a) Lighting for security purposes shall be adequate for that purpose without drawing unnecessary attention to the development;**
- (b) Lighting shall not adversely impact on surrounding development;**
- (c) Lighting shall not create 'twilight' impacts on the surrounding environment; and**
- (d) Lighting shall not diminish the quality of the night sky.**

39. This development not only fails to meet any of these objectives, it creates the exact opposite series of outcomes, particularly in relation to (b) Lighting shall not adversely impact on surrounding development.

## **Conclusion**

40. There is a rising concern in the general population, particularly in the country, that the mining industry is given priority over all other uses of the land, including residential and farming. If our planning laws fail to protect the population against the overreach of big mining this will, in time, undermine the general population's regard for planning laws and the law in general. The Department of Planning has a heavy burden of responsibility in this regard.

Yours faithfully,

Clive West