



Southern Waste Solutions

## COMMUNITY REFERENCE GROUP

### MINUTES

15 July 2014

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#### 1. Opening

A meeting of the Community Reference Group was held on Tuesday 15 July 2014 at Sorell Council's offices, commencing at 3.30 pm.

#### 2. Present

- a) **Present:** Paul Kelly (Blue Hills Sporting Shooters Club, landfill nearest neighbour), Max Cunningham (South East Shellfish Growers), Angela Marsh (Southern Beaches Conservation Society Inc), Christine Bell (Southern Waste Solutions), Ian Nelson (Chair).
- b) **Apologies:** Sarah Taylor (concerned and engaged community member), Tom Gray (Tasmanian Shellfish Executive Council - TSEC), Leigh Arnold (neighbour and local businessman).
- c) **In Attendance:** Dr Ian Woodward.

#### 3. Approval of Agenda

Members approved the agenda.

#### 4. Conflicts of Interest

None declared.

#### 5. Previous Minutes

Members adopted the previous minutes as circulated.

#### 6. General Business

- a) **Community queries**
  - (i) None were raised other than those specifically related to the C cell design (item 5 c)).

**b) Updates on actions agreed at previous meetings**

- (i) Other potential members of the group are still under consideration [06 August 2013 item 4 h) 5.]. Status: ongoing.
- (ii) Members noted that Jamie Ward has resigned from the Group and other members cannot readily follow up his outstanding items. Because they relate to laboratories and testing, and primarily affect shellfish growers, Max undertook to update the group if any changes came to light in relation to laboratory availability etc. Status: complete.
- (iii) The BLANkET air quality monitoring system has been installed at the Bream Creek showground and will provide the community with data relating to air quality (particularly relevant to asthmatics) as well as rainfall, temperature, etc. Data is expected to be available on line via the EPA web site in coming weeks. Status: complete.
- (iv) An outline of Authority reporting mechanism was emailed to all members, it was requested that it be sent again and it was [15 October 2013 item 5 e) (i)]. Status: complete.
- (v) Dr Ian Woodward attended to discuss the C cell design as requested by the group [21 January 2014 item 5 d) (iii)]. Status: complete.

**c) Presentation of C cell design**

Dr Ian Woodward gave a presentation of the C cell design including:

- The design started from first principles and was designed to best practice standards without relying on the performance the underlying geology can provide, ie. it was designed to be robust independent of the local geology.
- The design exceeds Tasmanian requirements and would meet or exceed guidelines anywhere in Australia.
- In descending vertical order the cell contains:
  - A 5 mm geotextile filter layer to keep waste out of the washed stone aggregate drainage layer.
  - A 300 mm washed stone aggregate layer that contains a network of collection pipes to drain leachate out of the cell.
  - A 5 mm cushion geotextile layer to protect the HDPE membrane.
  - A 2 mm impermeable HDPE liner to contain leachate and prevent it from reaching layers below. A sample was shown. HDPE can be susceptible to an adverse combination of heat and chemicals but the material in the cell will not generate heat because different types of material will be kept separate within the cell, preventing heat generating chemical reactions. It is underlain by 3

more impermeable layers to provide additional assurance.

- A 6 mm geosynthetic clay liner that is self-healing and included in the design to catch any leachate that may escape the layers above due to the unlikely risk posed by pin prick imperfections.
- A 5 mm drainage net layer including a witness sump. The witness sump will be inspected weekly, with inspections logged. It is designed to give early warning of leakage.
- Another 2 mm impermeable 'belts and braces' HDPE liner.
- A 1,000 mm layer of compacted clay.
- Leaks are highly improbable and would need holes in each of the 4 impermeable layers to be aligned along a flow path, which is also highly improbable.
- The planning document estimate of a leak of 6 litres per annum is based on highly conservative estimates. Leakage of this amount will not cause environmental damage.

Sarah emailed a number of questions, and members in attendance also raised some issues. Dr Woodward will provide a written response. Briefly, questions discussed (with brief answers from Dr Woodward or SWS as relevant) were:

- Information on the design not already given to the EPA: none available at this stage.
- Why is the presence of sandstone not important: because the sandstone is not under or around the C cell. The C cell is in a cup of dolerite approximately 15 or 16 meters thick. Leachate would need to escape from the cell, then escape from the dolerite then migrate laterally from the C cell to the sandstone.
- Describe the use of electro-survey equipment: this is outside Dr Woodward's personal area of expertise. The cell will be designed and built by a range of experts with their own set of skills.
- The expected life of the clay liner: under the conditions in the C cell the base clay liner has an expected life of hundreds of thousands of years.
- The expected life of the HDPE liner: under the conditions in the C cell hundreds of years and thousands of years considering all layers together. Its life can be reduced if subject to attack by a combination of heat and chemicals. The C cell will not produce heat (separation of waste, type of waste) and is designed to ensure that leachate drains to the collection system relatively quickly.
- What if a breach of the liner is found: breaches of at least 2 liners would be needed to cause concern. The witness sump would provide evidence and a long lead time. The source would be determined by the composition of the leachate

(different waste types are stored separately and their positions recorded using 3D GPS), the waste would be removed and the liner(s) repaired. Liners can be patched (HDPE heat welded, clay patched).

- Is there money to remove waste and repair liners: yes there is a trust fund component included in the gate fee.
- Suggestion that the aftercare promise of \$8m has been retracted: don't know where that came from because it is not true. It is included in the gate fee so waste providers pay for ongoing care and reparation if necessary.
- How long will the cell be monitored: prior to cell closure the EPA will approve the ongoing monitoring program. It will be monitored until it is certain that no more leachate is being generated. Once sealed, there can be no ingress of water into the C cell.
- What happens if groundwater, bores etc are contaminated: likelihood is remote given the witness sump process, combination of liners etc. Source would be determined and rectified, rehabilitation of water and compensation would occur.
- What if there is too much waste for the cell: it will stay in the suburbs and on the riverbanks where it is now.
- How can you tell if the filter layer is clogged: the flow to the leachate evaporation pond(s) would be reduced and a build up would be noticed in the cell. Fill practices will localise any such unlikely incidence. The drainage system is designed to prevent localised clogging becoming a problem. If it did the problem part of the layer would be replaced.
- Six litres annual leakage mentioned in planning documents, where will it get out: refer above. This would need imperfections in each layer to be aligned along flow paths. Also, the leakage estimate was based on a conservatively high moisture content of 30%, whereas the waste is actually more likely to have a 10% moisture content. It is extremely unlikely but if it did happen the amount is so small and over an extended period that it would quickly be diluted to undetectable concentrations and would not harm the environment.
- How long is the waste active: the waste is not active and different types of contaminants will be kept separate to prevent any reactions. Metals do not generally break down so they will not alter significantly when they have been entombed in the cell.
- Procedure for getting waste out and who decides and who pays: if it is to be reprocessed the reprocessor will pay. If it is to be removed to fix a liner etc SWS will pay. Gate fees cover this risk. If SWS no longer exists responsibility will pass up to councils. If councils no longer exist responsibility will pass up to the State etc. This is not a privately owned business that can walk away from its responsibilities.
- What if liners slip in to a hole: there are no holes to slip in to, the cell is surrounded by solid dolerite.

- **Blasting/fracking/seismology:** the area is very stable and the cell is designed to withstand strong seismic activity. If a seismic event was large enough to damage the cell it would mean that many buildings in southeastern Tasmania would be destroyed, something that is highly unlikely.
- **Stability of waste mass:** the cell is cup shaped so waste cannot collapse and fall out of the cell. It is not like the current landfill, which is built above ground.
- **Cell wall gradient and liner type:** this is part of the detailed design. The liners and the gradient will comply with all relevant standards.
- **Considering all mitigation, what is a perceived weakness:** design and multiple redundancy in the cell design mitigate risks and make them negligible. Leachate evaporation is probably the hardest task but that can be managed by an engineered evaporation system.
- **When would liner failure be most likely:** damage by heavy equipment during construction (mitigated by electrical testing), and during initial filling (mitigated by cushioning layer).
- **Which type of liner is most likely to fail:** HDPE because it is the most vulnerable to damage.
- **Rainfall event ready for 1:50 or 1:100:** will be at least 1:100.
- **Failure rate of this type of design:** question cites Jones & Dixon – need more information because the Copping design is extremely safe.
- **Uncontrolled surface water:** again need more information. The Copping cell is elevated and on the side of a hill. It has cut off drains. It is not susceptible to inundation by surface water.
- **Gas capture:** no gas will be generated because the waste is non reactive.
- **On site performance tests:** witness sumps, quarterly monitoring of surface and ground water.

**d) Other updates, open forum etc**

Angela referred members of the group to a report prepared for the Waste Advisory Committee by blue environment. It is available on the Southern Beaches Conservation Society blog spot.

**e) Actions for next meeting**

Action item	Reference	Assigned to
Members consider other group participants	5 b) (i)	All

**f) Next meeting**

Tuesday **14 October 2014, 3.30** pm at Sorell Council Chambers.

**g) Meeting close 4.55 pm.**