

14. LANDFILL GAS EXTRACTION PROJECT

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The purpose of this report is to provide information about gas extraction at the Burwood Landfill.

BACKGROUND

Public concern regarding odour was expressed during the Burwood consenting process carried out in 2001/02. Technical assessments required for the consent application showed that landfill gas was the most likely source of odour from the landfill. A commitment to the Burwood community has been made to take action to mitigate the effects of this odour source and accordingly \$800,000 was budgeted in the 2003/04 financial year for this project.

Preliminary work carried out by the Council's consultants for the Burwood Landfill, (URS Ltd) concluded that the most effective approach for the majority of the site was to install a gas extraction system. Approximately ten wells will be drilled down through the refuse. Collector pipes will be run across the landfill from these wells to a central point and gas will be extracted out of this system and burnt in an enclosed flare.

DESIGN/CONSENTING AND TENDERING PROCESS

A pressure group local to Burwood (Queenspark Residents Association) has been very active in keeping this issue in high profile in local papers, with other residents groups and in other quarters. It has therefore been considered important to place a high priority on establishing the gas extraction system in place as soon as practically possible. Accordingly URS has been directly engaged to:

- Prepare the necessary application for the discharge to air consent (for the flare).
- Carry out the detailed design of the system (taking into account potential future system expansion).
- Competitively tender for drilling work, pipe work, and flare/blower package.
- Assess tenders, award and supervise construction.
- Commission the system and provide operational training and manuals.

URS was selected directly as the consultant for the following reasons:

- The need to have the system operating as soon as practically possible.
- Good level of confidence in URS technical competence in landfill gas field development.
- URS already has detailed background knowledge of Burwood history/monitoring etc.
- The cost of the consultants work (included in the \$800,000) is \$130,000.

TIMING

As design work proceeds, the installation programme is being refined. The current programme shows commissioning taking place in early March 2004. If the flare is manufactured in Australia rather than the United Kingdom, commissioning could be four to six weeks earlier. Note that complete New Zealand manufacture is not possible as this is specialised equipment for which there is no expertise in New Zealand.

FUTURE DEVELOPMENT

Preliminary investigations into the feasibility of extending the systems and constructing power generation capacity from the gas will proceed in parallel with the phase one system. Final decisions on this cannot be made until gas is drawn and proven from the initial system. The cost of this second phase of gas extraction could be around \$6 million capital cost but the system will generate offsetting revenue from electricity sales.

The attached draft plans indicate the extent of both the preliminary system and a possible final system.

SUMMARY

Following concern about odour from Burwood Landfill, budgetary provision has been made to mitigate this problem. Design and construction of a planned landfill gas extraction system is now under way with commissioning expected early in 2004.

Staff

Recommendation: That the Committee endorse the planned gas control work.

Chairman's

Recommendation: That the above recommendation be adopted.