

HAWKESBURY CITY COUNCIL
SPECIAL MEETING

Where People Make the Difference!

SPECIAL BUSINESS PAPER

DATE OF MEETING: 10 August 1995

LOCATION: Council Chambers

TIME: 7.30pm

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Section 4 **Reports for Determination**

ITEM: 4 SOUTH WINDSOR WASTE DEPOT - VARIATION TO
OPERATIONAL ARRANGEMENTS - VARIATION TO 1995/96
BUDGET.

FILE NUMBER: GW001/002 PT7/EVD

REPORT:

Landfill practice at the South Windsor Waste Depot

To date the South Windsor Waste Depot has been operating under environmental controls more applicable to the 1960's than the 1990's.

There has been no monitoring of groundwater, there has been only basic control of the contaminated water which collects at the base of the waste cells (leachate) other than the protection provided by the natural clays, there has been no control over the emission of the greenhouse gas, methane, which occurs from the decomposition of organic material and finally there has been little control over the stormwater runoff which leaves the site.

Similarly the economics of the Waste Depot have been based on 1960's where the presumption was that new landfill sites would always be found and developed at reasonable cost and minimal community reaction. Consequently until mid 1994 waste was placed at a maximum depth of 3 metres, as was the standard practice at South Windsor, despite the fact that there is good clay to around 13 metres over the site. The two cells constructed since mid 1994 have had their depth increased to 6 metres and 9 metres respectively.

From a safety aspect the most recent 9 metre excavation posed serious safety concerns as the near vertical 9 metre faces became unstable and slumped posing obvious risks to people and equipment.

Draft EPA Environmental Management Guidelines for Solid Waste Landfills

In early 1995 the Environment Protection Authority released a draft of proposed environmental management guidelines for the operation of solid waste landfills. Whilst the title "guidelines" is used, they are more akin to mandatory requirements than guidelines. The draft document provides that in the case of existing landfills certain best practice requirements will apply unless the EPA can be satisfied that the landfill does not pose a significant threat to the environment.

The most expensive requirements in the draft guidelines are the provision of liners (both clay and membrane) to the cells to achieve effectively no permeability, leachate collection, groundwater monitoring and gas (mainly methane) capture. The draft guidelines have yet to be adopted and if they are it is likely that all Councils will be provided with a period, perhaps two to three years, to implement the changes. If the "guidelines" are adopted then a substantial upgrading of the existing form of landfill will be required at substantial cost when the guidelines are brought into affect.

Waste Depot Lease

The Waste Depot is on land owned by the University of Western Sydney which Council leases. The current lease was entered into in 1991 and provides for a royalty payment of \$1.00 per tonne indexed which is currently \$19,000 per annum. In addition the University is not liable for any tipping fees for use of the Waste Depot. The lease expires in the year 2005.

This lease period would see out the life of the landfill with current practice but would be insufficient for any capital upgrading which provided additional waste volume.

Contract to Operate the Waste Depot

On 19 December 1994, Council entered into a contract with Hughes Waste Management to operate the Waste Depot from 1 January 1995 to 30 June 2000 (5½) years. The tender documents and contract foreshadowed a similar form of landfill operation to that which had previously been occurring with the exception of the provision and operation of a leachate collection system at the contractor's expense. The contractor is responsible for all activities at the depot, including manning the gate and collection of fees, the supervision of the face, the excavation of cells, the compaction of garbage and the spreading of daily cover material etc.

The provision for the contract operation in 1995/96 is \$428,000.

Proposed Upgrading of the Waste Depot

Also in late December 1994, a firm of engineering consultants, Rust PPK, were engaged to design a leachate collection system for the landfill cells (holes) and to review the method of capping (final covering of) the cells. Rust PPK advised that this would be completed within 3 months. The brief was based on the existing form of landfill operation.

However during investigations by Rust PPK the original brief was extended as it was agreed that the current form of operation was inappropriate both in terms of environmental control and also scale. In early July 1995, Rust PPK completed plans for a landfill operation for the remainder of the landfill which is substantially different, both in scale and operation, to that previously undertaken.

The following table provides an indication of the key differences between the existing landfill arrangement and that new landfill design prepared by Rust PPK.

SPECIAL MEETINGMeeting Date: **10 August 1995**Item: **4****Existing Landfill Operation -v- Proposed Upgrading Recommended by Rust PPK**

	Existing Landfill Operation	Rust PPK Landfill Operation
Size of cells	Numerous cells between 6,000m ³ and 20,000m ³ with minimal separation. Depth on average has been only 3 metres.	Six cells between 40,000 ³ and 190,000m ³ with the average being around 100,000m ³ and no separation (the final development is a single cell). Depth of cells is 12 metres.
Total Waste Capacity	Maximum of 330,000m ³	760,000m ³
Remaining Life in the Landfill at current tipping rates	6 to 8 years	19 years
Volume of Excess Overburden	Minimal	Not finally determined but could be up to 500,000 tonnes
Leachate Control	No	Yes
Methane Capture	No	Yes
Compliance with draft EPA guidelines for landfills	Cannot comply	Can comply
Cost of Operating Depot	Currently \$428,000 per annum for 40,000 ³ of waste without environmental controls or \$10.70m ³ Some additional costs are incurred in respect of monitoring and landscaping.	Around \$764,000 per annum or \$19.00m ³ of waste. Based on following av annual payments:- excavate/line/bund \$164,000 enviro' controls \$100,000, additional staff \$30,000 additional plant \$30,000 interest on loans \$190,000 operation \$250,000 This represents an increase of approximately \$15 on garbage charges per annum. This figure would be reduced by increased gate charges. Does not include any cost of removing surplus overburden, extending the lease or benefit of defraying establishment of a new depot.

Future of the South Windsor Waste Depot

The development of the South Windsor Waste Depot is currently at a "watershed" position, where a decision must be made as to whether the previous form of landfill continues at a much cheaper running cost but with very limited depot life, or the site is substantially upgraded at a high capital cost but increasing the depot life by 15 years or more.

A decision to continue the existing form of landfill will mean that Council will have to actively pursue either a new landfill site or an alternative means of disposing of waste for the area's residents. The development period for a new landfill will be around four (4) years as it will require site selection, negotiation to acquire land, the preparation of an environmental impact statement, development consent, possible third party appeals, licensing by the Environment Protection Authority as well as a construction period of at least 12 months. Therefore a decision not to upgrade the current depot means that the development process for a new landfill site must commence within the next 12 months. Preliminary searching for a new site has been undertaken with the result that opportunities are very limited.

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Other options include incineration and the transport of waste to the other diminishing landfills in the Sydney area. In the case of incineration which is a popular option in Europe, it has a very high capital cost (\$150 million) and lack of political acceptability. Similarly the cost of transporting waste is very high. The cost of transferring the existing waste collected by the garbage compactors to a transfer station at Seven Hills which is operated by the Waste Authority would be approximately \$3,000 per day in tipping fees alone not including the additional transport to Seven Hills. There would be additional cost for waste received at the depot.

However a decision to upgrade the existing landfill in accordance with the recommendations of Rust PPK is not without some difficulties. The existing site is limited in area and would benefit from additional buffer distances to nearby residences along the Driftway. The plans prepared by Rust PPK provide for a 50 metre buffer of existing vegetation from the property boundary before the commencement of the landfill. The landfill is currently towards the rear of the site and has been for a number of years. However the remainder of the landfill site is closer to the Driftway and residences.

Current Status of the South Waste Depot

The area at the rear of the current site known as the Stage 1 area has been exhausted and the only remaining area for landfill is that known as the Stage 2 area which is the subject of the proposed new landfill design by Rust PPK.

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In order to provide some flexibility to either implement the proposed design prepared by Rust PPK or continue with the current practices, an arrangement has been agreed to with the contractor, Hughes Waste Management, to construct a cell with a volume of 80,000m³ in accordance with plans prepared by Rust PPK, but being only approximately half the volume of their first cell. Hughes Waste Management would have needed to excavate this volume over the next two years in any case and it has been agreed to bring forward some of their existing contract payments to cover the larger scale excavation.

To allow the excavation to be completed it was necessary to prolong the life of the small volume available for waste in the last cell in Stage 1 so that the depot can continue to be available for use by the general public. Consequently the garbage compactors have been directed to use the East Kurrajong Waste Depot on a temporary basis pending the completion of the excavation in approximately 6 weeks.

The option would be available to continue the excavation in accordance with the plans prepared by Rust PPK for the full volume of approximately 170,000m³ subject to agreement on a schedule of rates for the work.

Contract Considerations

Whilst the recommendation of Rust PPK for the design of a new waste depot could not have been foreshadowed, the fact that the contract to operate the depot has only run 6 months out of five and half years is a problem should it be decided to implement the Rust PPK design. As indicated the Rust PPK plans are for a very different waste depot, both in terms of construction and operation, to that tendered and contracted with Hughes Waste Management.

There have been negotiations with Hughes Waste Management about a schedule of rates to construct the first cell in the Rust PPK plan. With some changes to the schedule of rates and changes to the design of the cell and stockpile, Hughes Waste Management has reduced their cost for earthmoving from \$1.2 million to \$0.8 million. Further changes to the schedule of rates are currently being negotiated and some further decrease is possible.

The alternative of putting the remainder of the cell out to tender will require the termination of the contract before its expiry with a potential for an action in damages.

There have also been discussions with Hughes Waste Management about drafting two new contracts for the construction and operation of the Rust PPK proposal and coming to agreement on terminating the existing contract. Hughes Waste Management reasonably agreed that their excavation of all of cell 1 would represent a similar volume to that required in the remaining five years of their contract and that they may be interested in such a proposal provided that agreement was reached on them continuing with a contract to operate only. Further progress on these discussions is likely to be made between the drafting of this business paper and the special meeting.

Concerns of Adjacent Property Owners

There are a number of properties on the opposite side of the Driftway to the Waste Depot, the occupants of which have complained about various aspects of the Waste Depot's operation, including odour, vermin, noise and wind blown litter. As the landfill moves closer to the Driftway it will become more visible and complaints about operational matters are likely to increase.

A meeting with nearby property owners is being held on Saturday 5 August 1994 to discuss the Rust PPK plans.

Conclusion

The resistance to locating a new landfill and the cost of establishing a new landfill is such that there is merit on economic, environmental and public interest grounds in extending the life of existing landfills. The potential also exists at the South Windsor Waste Depot to rework old landfill areas which have waste to only 3 metres depth to an increased depth of 12 metres thus creating more storage volume but also in cells which can comply with the EPA draft guidelines. This could further extend the anticipated life of the depot well beyond 20 years at current disposal rates.

It is likely that the EPA guidelines for solid waste landfills will be implemented at which time expenditure on the current form of landfill would need to substantially increase. However even if the EPA guidelines do not become mandatory then responsible environmental management would suggest that Council should substantially upgrade the operation of the depot to prevent the potential for significant long term environmental damage.

Pending agreement with the University of Western Sydney for a time extension of the current lease, it is considered that the Rust PPK proposal should be implemented for the completion of stage 2 of the Depot. Pending agreement with the University it is proposed to negotiate with Hughes Waste Management to complete the first cell and possibly operate the depot provided they relinquish any contract rights for further excavation. The construction of the remaining 5 cells would then be put out to tender as they were required.

RECOMMENDATION:

1. That pending agreement with the University of Western Sydney for a suitable time extension to the current lease, Council proceed to implement the plans prepared by Rust PPK for stage 2 of the South Windsor Waste Depot.
2. That authority be provided to the General Manager to negotiate an extension to the lease for the South Windsor Waste Depot with Council's seal to be attached to any new lease.
3. That the expenditure to complete cell 1, up to \$2 (two) million, be funded from internal borrowing at an appropriate interest rate to be replaced by external borrowing in the next financial year with finance being provided by increased garbage charges and gate receipts at the depot.

4. That authority be provided to the General Manager to negotiate and resolve with Hughes Waste Management the completion of cell 1 and the continued operation of the South Windsor Waste Depot until no later than 30 June 2000 provided there is agreement to remove the excavation of future cells from their contract.

In the event that agreement cannot be reached to complete cell 1 then the excavation be put to tender.

5. Council's seal be attached to any renegotiated contracts as required.

ATTACHMENTS:

There are no supporting documents for this report.

FN:OR810SAX.V01

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