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DEPARTMENT OF
PUBLIC WORKS

SOLID WASTE DIVISION

CITY OF SACRAMENTO
CALIFORNIA

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June 7, 1989

Transportation and Community Development/
Budget and Finance Committees
Sacramento, California

Honorable Members in Session:

SUBJECT: COMPOSTING PROGRAM INFORMATIONAL REPORT

SUMMARY

The Solid Waste Division of the Department of Public Works has expanded and improved the yard waste compost program as part of a continuing effort to reduce the quantity of waste being landfilled and to process yard waste into a useful product. During Spring, 1989, the highest quality composted leaf mulch yet produced was sold. Approximately 1,300 tons of leaves and other yard waste were diverted from the landfill in the Fall of 1988. Experiments with different types of processing have yielded valuable information about how to expand the program even more in future years.

BACKGROUND

The City has had a leaf composting program for several years. At various times it has been operated by the Parks Division of the Department of Parks and Community Services, and by the Solid Waste Division of the Department of Public Works. This year, the Solid Waste Division greatly expanded and improved the compost program with the rental of a tub grinder and mechanical screen to process the leaves during the 1988-89 winter season.

With the closure of the City's 28th Street landfill (currently estimated at the end of 1991), and the City's goal of recycling at least 20% of the waste stream, City staff recommended in the 1988-89 fiscal year proposed budget that composting the yard waste be studied. The first phase of the compost studies was to experiment with the tub grinder and mechanical screen to determine production rates, quality of material produced, and costs.

Experiments with the tub grinder involved different combinations of wet leaves, dry leaves, brush, tree trimmings, etc. About 1,300 tons of leaves and other yard waste were diverted from the landfill to the compost area during the Fall of 1988. The production rates and quality of material processed were measured and recorded. Production rates were maximized with a combination of dry leaves and brush. The end product had some wood chips approximately one inch in length, but the majority of the chips were smaller. Undesirable material such as plastic bags and paper products were shredded with the garden refuse and reduced the quality of the product. Although the undesirable material is a small fraction of the total product, it is very visible and significantly reduces its value. Other deleterious materials such as glass and metal were also processed and are included in the end product. The material could not be considered saleable compost immediately after being processed by the tub grinder. We estimate about six months of monitored composting time followed by

mechanical screening will be required before the material can be sold. Then, the 1,300 tons of leaves and yard waste will yield about 2,000 to 3,000 cubic yards of compost.

In addition to processing the 1,300 tons of 1988 yard waste, there were several windrows of composted yard waste from previous years that needed processing prior to sale. A rented mechanical screen was used to remove unsuitable material and produce a fine black leaf compost. About 4,500 cubic yards of compost was produced from these older piles of material. During three weekends in March and April, 1989 this material was sold to the public. Customers were limited to a maximum of 5 cubic yards each. The amounts charged are listed in the City's fee and charge report. About 580 people purchased approximately 2400 cubic yards of compost during the three weekends. Proceeds of the sale totaled \$5,209, an average of \$2.17 per cubic yard. City staff is also investigating possible large quantity buyers for the remaining 2100 cubic yards of compost material available for sale in stockpile.

The second phase of the compost studies is to hire a consultant to recommend a specific operational and process design for a compost program which will divert from the landfill as much yard waste as possible. Specifically, the consultant will review the data developed by City staff, evaluate the markets for selling various quantities and grades of compost, and recommend a specific compost program operation to make maximum use of the available land at the City landfill site. At this time the Department of Public Works is pursuing a consulting services agreement with R. W. Beck Associates (the firm conducting the major recycling study for the County). We hope to have the final report on the compost program submitted concurrently with the completion of the County's major recycling study. In this way, the City can consider the recommended compost program along with the other options for recycling that will be described in the County's report.

FINANCIAL DATA

Compost sold this spring yielded \$5,209 from approximately 2400 cubic yards, an average revenue of \$2.17 per cubic yard. It costs approximately \$7.56 per cubic yard to produce this compost using the low intensity processing (occasional turning and watering of windrows followed by mechanical screening after at least two years). This cost estimate includes the costs of sales, supervision, and future site improvements required to expand the program. It should be noted however that this low intensity method is not suitable for a large composting program. Because of the time required for the composting, this method requires a large amount of space. Also, the final screening process results in a significant quantity of material which is rejected and disposed in the landfill, thus defeating the purpose of composting to avoid landfilling.

POLICY MATTERS

Information provided in this report will contribute to the growing body of knowledge about composting that will influence future City policy on expansion of the compost program as part of an integrated waste management strategy.

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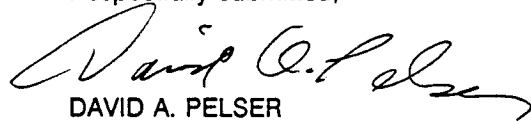
MBE/WBE

Not applicable.

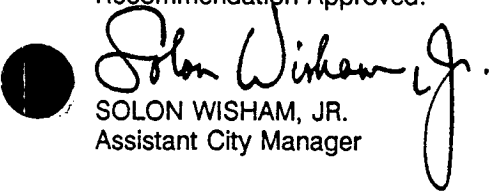
RECOMMENDATION

Forward this report to the City Council to file for information.

Respectfully submitted,


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Recommendation Approved:


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Approved:


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June 7, 1989
All Districts