33. PURCHASE OF BIOSOLIDS DEWATERING BELTPRESS

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The purpose of this report is to seek approval to purchase a second biosolids dewatering beltpress.

INTRODUCTION

With the upgrade to the wastewater treatment plant and commissioning of the new trickling filter/solids contact process the volume of solids produced in the plant has (as expected) increased. The solids are treated through the anaerobic digesters in which fermentation process breaks down the organic matter in the solids and produces the biogas that is used as a fuel on the site. The solids are then stored in the open lagoons prior to dewatering in a belt press for use as a soil conditioner and fertiliser.

NEED FOR A SECOND DEWATERING MACHINE

At the same time as the volume of solids has increased, the nature of the biosolids has changed as the proportion of solids produced in the secondary treatment part of the process has increased. This change in nature is expected and has resulted in the biosolids being more difficult to dewater, ie it is now harder than previously to dry a dewatered cake". Every effort has been made to increase the dry solids content of the dewatered cake by changes to the added polymer (a compound that aides the dewatering process) and by modifications to the existing belt press. While these measures have been partly successful a much drier cake is required to both reduce cartage and land application costs and to meet resource consent requirements of 25% dry solids.

CHOICE OF NEW DEWATERING MACHINE

Both beltpress technology and centrifuge technology has been extensively evaluated for this application. Centrifuges have been discounted for this application as they suffer significant wear (additional maintenance costs) with the gritty nature of our biosolids and consume up to five times more power than beltpresses. It is claimed that centrifuges can achieve slightly better dry solids content however on balance the best technology for this application is considered to be the beltpresses. Prices have been received for suitable machines as follows:

Supplier	**Make/Model**	**Origin**	**Price**
Mason Engineers Ltd	Bellmer Winklepress WPM-K3	Germany	$462,358
Mason Engineers Ltd	Simon Hartley Klampress	Germany	$422,358
Biolab Environmental Ltd	Dewa HPD21L	Finland	$345,000

The Dewa belt press offered is a high–pressure machine from the same manufacturer as the current machine but of significantly higher dry solids capability. The Dewa equipment is soundly engineered and easily maintained. This equipment is been separately budgeted for under Liquid Waste Fixed Assets. The budget allocation is $408,000

Recommendation: That the quotation from Biolab Environmental Ltd be accepted for a total price of $345,000.

Chairman's Recommendation: That the above recommendation be adopted.