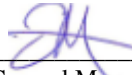




# Memorandum

## MONTEREY REGIONAL WASTE MANAGEMENT DISTRICT

Reviewed by:  Date: 4/15/22  
General Manager

DATE: April 15, 2022  
TO: General Manager  
FROM: Director of Engineering and Compliance, District Engineer  
SUBJECT: Aeration System for Compost Facility's Contact Water Pond

**RECOMMENDATION:** That the Board authorize \$38,500 in funding (inclusive of ~10% contingency) for four (4) wind powered aerators for the Compost Facility's Contact Water Pond.

### BACKGROUND

In 2021, the improvements to the Compost Facility operations area were completed in accordance with California's 2015 General Order Waste Discharge Requirements for Composting Facilities. The improvements included, but were not limited to, the construction of a lined Contact Water Pond. Both the active composting area and the storage and curing areas of the operations all drain to the lined Contact Water Pond. "Contact Water" is water that comes into contact with any waste material at the compost site. Contact Water is required to be managed separately from storm water and cannot be discharged offsite. Contact Water can be reused in the composting process onsite.

Following completion of the compost site improvements, District staff relocated a wind powered aerator to the Contact Water Pond. The aerator had been located in a smaller pre-existing storm water basin near the southeastern corner of the compost site. The system consisted of an 18-foot wind turbine that drives a bellow that forces air into a couple diffusers located in the pond to aerate the pond water. However, the single aerator system is only capable of treating about 15% of the pond area.

### DISCUSSION


The storm water runoff from the compost area is required to be managed as Contact Water and thus, it is directed to the lined Contact Water Pond. The Contact Water has contacted organic materials at the compost site and can carry organic matter into the pond where it will decompose over time. The decomposition process can occur aerobically in the presence of oxygenated water or anaerobically in the absence of oxygenated water. To minimize odors emanating from the pond water, management practices consist of i) minimizing the amount of organic matter from entering the pond and ii) maintaining oxygenated water quality in the pond. To mitigate the development of anaerobic conditions developing in the pond, it is necessary to maintain oxygen content and circulation in the pond water. Staff and an engineering consultant have initially investigated various aeration systems. Full scale permanent aeration systems appear to be on the order of a couple hundred thousand dollars in first year costs. As an alternative, staff recommends that the initial approach to pond aeration be accomplished through expansion of the wind powered aeration system for the Contact Water Pond. At least four (4) more wind turbines (double bellow system) would be necessary to achieve a minimum sufficient aeration supply for the Contact Water Pond. Maintaining oxygenated water quality in the pond will allow for aerobic decomposition processes to be the prevailing condition in the pond.

**FINANCIAL IMPACT**

Staff estimates that \$38,500 of funding (inclusive of ~ 10% contingency) will be necessary to add four (4) more wind turbine aerators to the Contact Water Pond. Thus, a total of five wind turbine aerators would be operating in the Contact Water Pond after installing the new aerators. The expenditure is planned for this summer in the current fiscal year (FY2021/22). Available funding from deferred capital project funds in the current budget would be used this fiscal year should this expenditure be approved by the Board.

**CONCLUSION**

Staff recommends that the Board authorize \$38,500 in funding (inclusive of ~ 10% contingency) for the addition of four (4) wind powered aerators to the Compost Facility's Contact Water Pond.



---

Guy R. Petraborg,  
Director of Engineering and Compliance