

Harvest Fraser Richmond Organics
UPDATE ON ACTIONS
October 19, 2016

GOAL: Eliminate occurrence of offensive odours outside Harvest's site.

Immediate Actions	Expected Benefit	Impact (3 = best)	Date*
<ul style="list-style-type: none"> Complete overhaul of Covered Aerated Static Pile composting system, including refreshing substrate and repairing/replacing majority of system piping. 	<ul style="list-style-type: none"> Better aeration reduces anaerobic pockets in the composting process, which are a leading cause of odors. 	★ ★	Completed
<ul style="list-style-type: none"> Reduce or eliminate acceptance of very odourous inbound material (e.g., cruise ship waste, sea urchins, chicken hatchery waste). 	<ul style="list-style-type: none"> Reduce original sources of odours and reduce demands on aeration system. 	★	Completed
<ul style="list-style-type: none"> Pretreatment of Energy Garden digestate prior to removal to composting. 	<ul style="list-style-type: none"> Less odorous to begin with; reduce demands on aeration system. 	★ ★ ★	10/14/16
<ul style="list-style-type: none"> Reduce inbound volumes of food waste to Energy Garden by 30+%. 	<ul style="list-style-type: none"> Reduce volume of odourous digestate produced by the Energy Garden, while we experiment with improved treatment options. 	★	10/18/16
<ul style="list-style-type: none"> More equipment: increased from one to three grinders; new scalping plant – combined with increased staffing levels (new hires + overtime). 	<ul style="list-style-type: none"> More thorough mixing before materials placed on compost piles; incorporate materials more quickly and prevent back-ups. 	★ ★	10/16/16
<ul style="list-style-type: none"> Reduce compost pile heights. 	<ul style="list-style-type: none"> Better aeration prevents/reduces odor. 	★ ★	Sept, 16 to May 17
<ul style="list-style-type: none"> Replace/refresh biofilter media. 	<ul style="list-style-type: none"> New media should enhance biofilter performance. 	★ ★	11/15/16
<ul style="list-style-type: none"> Regular assessments and modifications of operating practices with help of outside consultants. 	<ul style="list-style-type: none"> Continuous adjustment of equipment and operating practices to ensure improvements and mitigate risks. 	★	On-going

Near-Term Actions	Expected Benefits	Impact	When*
<ul style="list-style-type: none"> Continue reducing pile heights – by June 2017 to half of prior permitted level. 	<ul style="list-style-type: none"> Better aeration prevents/reduces odor. 	★ ★	6/30/17
<ul style="list-style-type: none"> Volume reductions for more odorous materials during Summer 2017. 	<ul style="list-style-type: none"> Reduced loading allows for better aeration. 	★	6/1/17
<ul style="list-style-type: none"> Run pilot projects on new CASP replacement systems. 	<ul style="list-style-type: none"> Determine optimum configuration to support complete replacement. 	★	Mid-2017

Longer-Term Actions	Expected Benefits	Impact	When*
<ul style="list-style-type: none"> Complete replacement of CASP aeration and biofilter system. 	<ul style="list-style-type: none"> New system optimized to current and projected material make-up and volumes will significantly reduce generation of odor in first place, then capture and treat what is produced. 	★ ★ ★	2018

* **Date of Implementation.** Compost production takes three-to-five months, so changes implemented today will have progressively greater impact over time.