

Resort Municipality of Whistler, BC, Canada

TURNING MUNICIPAL GARBAGE INTO MARKETABLE COMPOST WITH AN OVERHEAD CRANE

CHALLENGE

Electric overhead crane needed to move and load compost

The Resort Municipality of Whistler is a community of 14,000 permanent residents whose Whistler 2020 vision for environmental sustainability is one of the most aggressive in North America. Whistler annually welcomes around 2 million guests for winter and summer sports, but due to terrain limitations and a plentiful bear population that rule out a landfill, options for nearby waste disposal are limited. With exporting its garbage to Washington State as the only alternative, Whistler committed to build a new \$14 million regional composting facility. Since a prior composting pilot project at a nearby industrial park in Squamish resulted in an odor issue, all planning parties agreed that the material handling methods for the new facility would need to evolve.

One of the major issues identified in the Squamish pilot project were the front-end loaders burning fossil fuel, which resulted in fumes and exhaust inside the building. They also tended to track biosolid residue all over the site, creating a very dirty environment. Therefore, a decision was made to replace them with an overhead crane to move and assemble the primary ingredients for compost. In addition to sustainability, the crane criteria included the best possible reliability, proven technology and the ability to call in local service contacts in case something went wrong.

SOLUTION

Five-tonne bucket, 2.5 m3 grab, Dyna-Pilot anti-sway and automation

Based on Konecranes recommendation, a five metric ton bucket crane, operated by electricity, was selected for biosolids handling. The 18-meter operating span with a 2.5 cubic meter hydraulic grab was suitable for a small-scale facility and allowed efficient use of floor space and easy access to all stored materials.

The crane is radio controlled and equipped with DynAPilot, anti-sway load control software. It was set up for future automation, though it was decided to have a human running the process, allowing the mixture to be tweaked for changing temperature conditions and pick out unwanted items to maintain quality control in the compost. The crane also had the ability to weigh each load it picked up, which helped standardize the product.

According to Patrick Mulholland, Compost Operations Manager at Whistler, another good decision was to let Konecranes Service maintain the crane with quarterly maintenance inspections with a heavy emphasis on



preventive measures. “The crane is a sophisticated piece of machinery. We were happy to let Konecranes to take care of the crane so that we could focus on other parts of the process.”

RESULTS

Composting facility receives clear return on investment

Whistler has begun to get a clear picture of their return on investment in the regional composting facility and the crane. The crane reliability has been extremely important to the project:

“Without the crane functioning, the plant does not function. Without the plant functioning, our ability to deal with biosolids locally comes to a complete halt. We have the capacity to receive biosolids for only two to three days before we have to ship it to Washington State at a significant cost.” says Ron Sander, Whistler Environmental Operations Manager.

The benefits of the overhead crane have also included the elimination of diesel fumes in buildings and confined areas, allowing doors to be kept closed and thereby minimizing the escape of odors and dust.

“There were some significant reservations from experienced operators of other plants on our proposed design solution of using a crane rather than loaders. Now, they and we are in agreement that it has been probably the most pleasant surprise of the entire project – just how well that crane has worked.” says Sander.

“Whistler is very pleased about the short and long-term benefits our new composter brings,” says Whistler’s Mayor Ken Melamed. “Composting reduces export waste, treats multiple waste streams locally, produces revenue-generating by-products and saves money for the taxpayers and local businesses. The question is why we did wait so long?”



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