Huber's BT Belt Dryer is a Game-Changer for the Sludge Handling Process

"There are so many ways that the Huber BT Belt Dryer has made our sludge handling process safer.." **Bill Bourke, Bio-solids Coordinator**

The Town of Mooresville's Wastewater Treatment Plant had been looking at sludge dryers for quite some time when, in 2000, the opportunity came to implement one. Sludge handling processes have progressed from digging a hole in the ground followed by land applying methods to sophisticated drying technologies such as belt dryers. So they needed to look at the performance of many types of dryers to select technology that would be best for the specifications and goals that they had for their plant.

Raising the bar on sludge handling processes

The Mooresville plant – an activated sludge secondary process – utilizes a biological process that introduces microbes as soon as the flow enters the plant. If the crew does their jobs right, the microbes work from beginning to end and multiply along the way to help break down the waste into useable sludge. As sludge handling processes go, the Town of Mooresville had operated in a typical fashion – screening and pressing water from sludge as best they could before hauling it off to the landfill. Improving their

methods in this area and creating usable bio-solids had the potential to drastically improve their operating cost savings and their impact to the community.

Mooresville needed dryer technology that could:

- **Reduce the weight of the plant's sludge end-product**
- **Maintain or improve the safety in the plant**
- **Fit into the plant's green policies**
- **Operate with minimal maintenance**

Opportunity:
With Huber's BT Belt Dryer in place, Mike Lamberth, Plant Superintendent and Bill Bourke, Biosolids Coordinator, finally had the opportunity to put next level efficiencies and effectiveness in place. While they knew that the belt dryer would help to reduce the water in their sludge, they were surprised when Huber's technology began to produce other types of savings and benefits.

"The key points about the technology are that it drives lower operating costs and makes our process safer - two of the factors we absolutely needed to address with a new sludge handling process. We're very pleased with it. In fact, making the Huber BT Belt Dryer a key component in our new sludge handling process puts our facility ahead of our peers in promoting green principles with cutting edge efficiencies and effectiveness."
Mike Lamberth, Plant Superintendent

Solution:
Price may have been the determining factor for the board in choosing Huber's BT Belt Dryer, but its performance won the hearts of the plant crew. Lower operating temperature was the most obvious factor.
Even when the dryer is working, the building's temperature is tolerable. One point that Mike likes about the price is that its efficiencies are so tremendous that the plant may only be looking at a ten-year payback period for the Huber BT Belt Dryer – which is excellent for this level technology. And that quick payback period means that the option to add a second dryer – one of the things on Mike's wish list – could be discussed sooner than anyone thought possible.

"As the population in and around Mooresville continues to grow, this facility will have to be able to process more. The ROI that the Huber BT Belt Dryer will provide helps us to better align our expansion plans with our predicted growth."
Mike Lamberth, Plant Superintendent

Putting safety first
What immediately set Huber's BT Belt Dryer apart for Mike and Bill was safety. The Huber BT Belt Dryer operates at much lower temperatures than other dryer types. Other types of drying technology require naturel-gas-feed boilers to heat to 300-800^0 F to operate while the Huber Belt Dryer BT does its job at a mere 190-200^0 F. Right off the bat, the lower temperatures eliminate the potential for burn injuries and explosion and reduce consumption of natural gas.
Another less obvious safety bonus is the near elimination of haul-off. The landfill is a dangerous place of berms with heights that

reach ten stories above the tree line. Trips in huge, heavily-loaded trucks at the dark, wee hours of the morning on unlit, dirt and gravel roads present tremendous risks for the employees who must make them. Mooresville's new sludge handling process reduces their haul off runs from two per month to *two per year*.

"There are so many ways that the Huber BT Belt Dryer has made our sludge handling process safer. The risks span all sorts of haul-off and landfill related accidents to boiler explosions and burns - and even heat stroke. If we only looked at this aspect, this dryer would be my hands-down choice. With the other benefits - that include operational cost reductions and greater control over end-product - and I have to say 'Hats off to Huber for what they have designed.'" Bill Bourke, Bio-solids Coordinator

Slashing operating costs

Prior to implementing the Huber Belt Dryer BT, the Mooresville Plant endured a $449,000 budget for yearly sludge handling. This included haul-off costs as well as tipping and hazard fees at the landfill. Huber's BT Belt Dryer is a game-changer for the plant because it creates an end-product that is 3% water and 97% product – compared to previously produced end-product that was 16% product and 84% water. The cost of the plant's sludge handling process was reduced by $200,000. Mooresville's new process:

- Requires no more than 2 haul-offs per year instead of the previous 2 per month regimen.
- Reduces haul-off weight to 10 tons at most instead of previous haul-offs that were 21 – 25 tons per load.
- Eliminates hazard surcharges because the end-product is now Class A instead of Class B.
- Produces a useable – and even marketable – end-product that is perfect for use as a soil additive.

With the introduction of the Class A end-product, the Mooresville facility eliminates any issues or surcharges with disposing of their sludge. In fact, the process produces a desirable and marketable end-product that can off-set even more operating costs.

"The difference is phenomenal. Basically, you're just reducing the water factor. But look at what reducing that one factor does to costs. $200,000 saved in line-item costs makes everyone incredibly happy. The new sludge handling process that Huber's BT Belt Dryer provides has enabled us to proceed with obtaining our own Class A license so we can actually turn our end-product into a viable revenue stream that will grow along with our plant." Mike Lamberth, Plant Superintendent

Controlling the process

Bill has an amazing amount of control over the drying process with Huber's BT Belt Dryer because the finer details of the process are monitored by sensors throughout the system and given to him dashboard style so he can tweak any factor that he would like to maintain an optimal drying environment.

The technology enables Bill to work within his minimums and maximums to meet the needs or production goals of the plant. For example, Bill was asked to do what he could to help in reducing the plant's operational costs. Through tweaks in the drying process, Bill delivered savings in fuel use that wouldn't be possible without the transparency of Huber's BT Belt Dryer controls. Because of the precision of the dryer's dashboard technology, Bill literally sees the drying process as it unfolds and manage his parameters to deliver Class A end-product at a lower operational cost.

"Learning the limits – both maximums and minimums - of this system has been interesting. The technology is all there to keep you in control and that makes it fun to see how the system can be tweaked to get the most out of it."
Bill Bourke, Bio-solids Coordinator

Experience counts
Huber's experience with municipalities and with wastewater processes is extensive as is its knowledge of the technologies it provides. This industry-technology insight allows Huber to work with organizations to ensure that systems are geared to perfectly match up to immediate tactical challenges and long-term strategic goals.

"Huber has lots of great people trying to give 100% to get us what we need." Bill Bourke, Bio-solids Coordinator

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About Huber Technology:

Huber serves the municipal and industrial wastewater treatment market with high quality liquid-solid separation technology. Huber Technology offers the complete chain of screening, grit and sludge handling processes. The company is an original source manufacturer specializing in stainless steel fabrication of technologies for water and wastewater. Headquartered in 35,640 sq. ft. of office and manufacturing space in Huntersville, N.C.,

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