



URINE DIVERTING
TOILET KITS

CUSTOM
SOLUTIONS

SERVICE
SUPPORT

TST TOILET TECH
SOLUTIONS

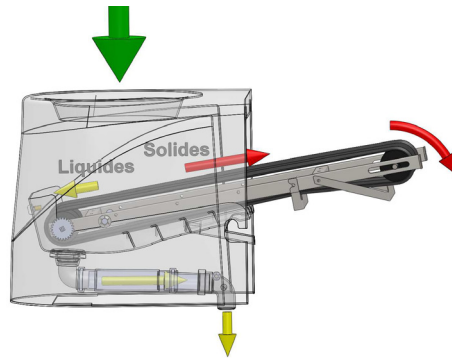
A division of Engineered Compost Systems

URINE DIVERTING SEATS AND KITS

Managing human waste at our beautiful parks and protected places is challenging. Pit toilets pollute. Composting toilets fail to make compost. Helicopters are expensive, loud, and dangerous. These challenges (and failures) result from mixing urine and feces together. However, if urine is source-separated, it can be discharged directly for treatment by soil before ammonia is formed. This eliminates 60-80% of the waste volume onsite. Devoid of ammonia, feces can be rapidly degraded by native soil bugs. TTS's Behind-The-Wall (BTW) conveyor seat is the most robust and reliable urine diversion system in North America.

BTW URINE DIVERSION SEAT

- Proven robust and reliable conveyor
- Achieves >99% urine diversion
- Waterless – foot flush pedal
- Zero bulking agent needed
- Save >\$2000/yr over other 'dry' toilets*
- CAN & US patents (2013) 2,826,499 & 14/025,668



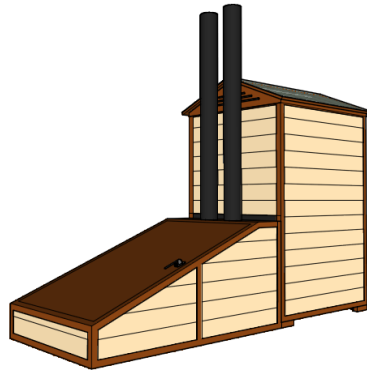
TTS BTW CONVEYOR



ZIRCONO

WISHBONE 'JOHN' TOILET KITS

- Pre-fab and modular
- Assembles in 1 hour
- Recycled Plastic T&G wall boards
- Rustproof aluminum frame
- 10 year warranty on walls and frame
- Sold as pump-out vault or BTW Decompose/Waste Away



REGULAR



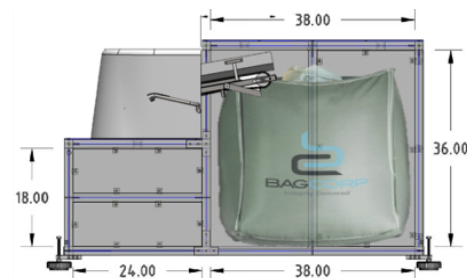
HANDICAP

WILDERNESS TOILET KITS

- Above ground only options
- Wilderness compliant
- Pre-fab kits or DIY instructions



WILDERNESS



ENCHANTMENTS

*per Hill & Baldwin 2012 Vermicomposting toilets... published in Waste Management journal.

TTS BTW urine diversion seat: patent protected in Canada (2,826,499) and USA (14/025,668)

WASTE MANAGEMENT

All TTS toilet systems divert urine away from solid waste. This waste diversion is the only ecologically sound approach. All mammals physiologically source separate their waste streams. Soil biology has evolved to process mammal wastes separately; bacteria oxidize minerals in urine and plants uptake the nutrients; while bugs and invertebrates consume the fecal matter, adding their own intestinal bacteria to the degraded waste for rapid decomposition and stabilization.

URINE TREATMENT

OPTION 1: BELOW GROUND

- Septic Field Design
- Complies with Local Regulations

OPTION 2: ABOVE GROUND

- Trickling Filter Design
- Suitable for Sites without Soil



B.C. PARKS

SOLID WASTE TREATMENT

OPTION 1: DECOMPOSE

- Uses Native Bugs to Decompose Waste
- No Bulking Agent Required
- Pathogen Reduction
- Decomposition in 6-12 Months
- Low/No Odor

OPTION 2: WASTE AWAY

- Waste Collected in Fabric Bags
- Variety of Bag Sizes from BagCorp.com
- Passive Drying Reduces Weight and Odor
- 80% Less Weight than Combined Urine and Solids
- Haul to Disposal
- Service Provided by TTS

INCINERATE

- Low Moisture Enables Efficient Combustion
- On-Site Batch Treatment Combustion Equipment Available from TTS



RAW WASTE - 6 MONTHS OF DECOMPOSITION
SMITH ROCK STATE PARK, OR

CUSTOM BUILDING SOLUTIONS

- Joffre Lakes, BC Parks (2 in 2017)
- Lago Capri, Patagonia (1 in 2016)
- Smoke Bluffs, Squamish BC (1 in 2014)
- Taylor Meadows, BC Parks, Whistler BC (2 in 2015)
- Glacier Bay NP, AK (Pan Abode 2014)



GLACIER BAY



TAYLOR MEADOWS



JOFFRE LAKES



SMOKE BLUFFS

RETROFIT FAILING COMPOSTING TOILET SYSTEMS

(starting at \$5500 includes hardware)

- Panorama Point, Mt. Rainier (1 in 2016)
- Camp Muir, Mt. Rainier NP, WA (9 2016/2017)
- Smith Rock State Park, OR (1 2015)
- Corkscrew and Yankee Boy USDA FS, Ouray, CO (2 in 2017)
- Cultus Lake, USDA FS, OR (2 in 2016)



CAMP MUIR



GRAND MESA CORKSCREW

OTHER NOTABLE TTS SITES

- Fern Lake (2016) & Longs Peak (4+ 2018), Rocky Mountain NP, CO
- Glacier NP, MO (2 in 2017)
- Canmore Nordic Center, AB (2 in 2015)
- American Prairie Reserve, MO (2 in 2017)

PEER REVIEW PUBLICATIONS

Hill GB and Baldwin SA (2012) Vermicomposting toilets, an alternative to latrine style ... Waste Management 32(10) 1811-1820.

Hill GB, Baldwin S, Lalander C (2013) The effectiveness and safety of vermi-vs conventional composting ... J of Sust. Dev. 6(4).

Hill GB, Baldwin S, Vinneras B (2013) Composting toilets a misnomer ... J of Env. Mgmt 119.

Hill GB and Henry GHR (2013) The application and performance of urine diversion ... International Journal of Wilderness Management 19(1), 26-33.



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